TECHNOLOGY DEPT.

February 18, 1942

NATIONAL PETROLEUM NEWS

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DETROIT

The Refining Outlook for 1942

New installations under contract will make this year the greatest refinery investment period in its history R-49

Synthetic Rubber Manufacture

Latest developments in the processing of butadiene to form artificial latex are obtained from rubber companies at Akron, Ohio.....R-51

Filter Plant Decolorizing vs. Lab Results

A correlation of clay yields obtained by the method previously published by NPN with actual plant results for lubricants R-57

War-Time Asphalts

The country's military needs for various grades of asphaltic products are described by a leading technologist R-60

NEWS IN BRIEF

Natural gasoline shortage looms; prices drop 2c in less than month. Page 19.

* * *

Motor cars will operate on 100-octane after war, Gary tells AIME. Page 20.

* * *

Synthetic processes help Axis powers stretch their oil supply. Page 4.

* * *

Army to insist on 80-octane for premium under TPD Contracts. Page 20.

* * *

Refiners are urging customers to speed movement of tank cars. Page 26.

Co-ordination of all carriers needed to alleviate transport shortage. Page 25.

* * *

Mass production methods expected to reduce tanker building time. Page 26.

* * *

Gulf refiners "drowning in oil" hope for transportation relief. Page 21.

* * *

Ethyl streamlines technical operations for wartime. Page 22.

* * *

OPA sets "ceiling" on asphalt products. Page 20.

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COMING MEETINGS

FEBRUARY

Kansas Oil Men's Assn., 28th Annual Convention, Hotel Broadview, Wichita, Kans., Mon.-Tues., Feb. 23-24.
Liquefied Petroleum Gas Assn., Annual Convention, Kansas City, Mo., Mon.-Wed., Feb. 23-25.
Iowa Independent Oil Jobbers' Assn., Annual Convention, Hotel Fort Des Moines, Des Moines, Ia., Wed.-Fri., Feb. 25-27.
American Petroleum Institute, Div. of Production, Southwestern District, Spring Meeting, Adolphus Hotel, Dallas, Tex., Thurs.-Fri., Feb. 26-27.
North Texas Oil & Gas Assn., Wichita Falls, Tex., Sat., Feb. 28.

MARCH

American Society for Testing Materials, Committee Week and Spring Meeting, Cleveland, Ohio, Mon.-Thurs., March 2-5.
Defense Highway Congress of the American Road Builders' Assn., Memphis, Tenn., Mon.-Thurs., March 2-5.
Indiana Independent Petroleum Assn., Spring Convention and Refiners' and Suppliers' Exhibit, Hotel Severin, Indianapolis, Ind., Tues.-Thurs., March 3-5.
Oil Trades Assn. of New York, Annual Meeting & Election of Officers, Waldorf-Astoria Hotel, N. Y., Tues., March 10.
American Petroleum Institute, Div. of Production, Pacific Coast District, Spring Meeting, Biltmore Hotel, Los Angeles, Calif., Tues., March 10.
Illinois Petroleum Marketers Assn., Annual Convention, Hotel Pere Marquette, Peoria, Ill., Tues.-Thurs., March 10-12.
Wisconsin Petroleum Assn., Annual Convention and Equipment Show, Schroeder Hotel, Milwaukee, Wis., Wed.-Fri., March 18-20.
American Society of Mechanical Engineers, Spring Meeting, Houston, Tex., Mon.-Wed., March 23-25.
Retail Gasoline Dealers Assn. of Michigan, Annual State Convention, Pantland Hotel, Grand Rapids, Mich., Tues.-Wed., March 24-25.
American Petroleum Institute, Div. of Production, Mid-Continent District, Spring Meeting, Mayo Hotel, Tulsa, Okla., Thurs.-Fri., March 26-27.
New York Oil Heating Assn., Inc., Annual Dinner Dance, Hotel Pennsylvania, New York, N. Y., Sat., March 28.

APRIL

American Petroleum Institute, Div. of Production, Eastern District, Spring Meeting, William Penn Hotel, Pittsburgh, Pa., Thurs.-Fri., April 9-10.
Midwest Power Conference, Annual Meeting, Palmer House, Chicago, Ill., Thurs.-Fri., April 9-10.
American Institute of Mining & Metallurgical Engineers, Cincinnati, O., Wed.-Fri., April 15-17.
National Petroleum Assn., 39th Semi-Annual Meeting, Hotel Cleveland, Cleveland, O., April 16-17.
American Chemical Society, 103rd Meeting, Memphis, Tenn., Mon.-Fri., April 20-24.
American Assn. of Petroleum Geologists, 27th Annual Meeting, Cosmopolitan Hotel, Denver, Colo., Tues.-Fri., April 21-24.
Petroleum Industry Electrical Assn., Washington-Youree Hotel, Shreveport, La., Wed.-Fri., April 22-24.

MAY

American Institute of Chemical Engineers, Semi-Annual Meeting, Boston, Mass., Mon.-Wed., May 11-13.
Natural Gasoline Assn. of America, 21st Annual Convention, Mayo Hotel, Tulsa, Okla., Wed.-Fri., May 13-15.
International Petroleum Exposition, Tulsa, Okla., Sat.-Sat., May 16-23.
National Assn. of Purchasing Agents, (Oil Company Buyers' Group), Waldorf-Astoria Hotel, New York, N. Y., Mon.-Thurs., May 25-28.

JUNE

American Society of Mechanical Engineers, Semi-Annual Meeting, Cleveland, Ohio, Mon.-Thurs., June 8-11.
Oil Trades Assn. of New York, Sports Day, Pelham Country Club, Pelham Manor, N. Y., Tues., June 9.
American Society for Testing Materials, Chalfonte-Haddon Hall, Atlantic City, N. J., Mon.-Fri., June 22-26.

SEPTEMBER

Oil Trades Assn. of New York, Sports Day, Pelham Country Club, Pelham Manor, N. Y., Tues., Sept. 8.

NATIONAL PETROLEUM NEWS

FEBRUARY 18, 1942

NEWS

News Section 3-26
Washington Section Begins on 5
Editorial 11
Refining News 19
Transportation News 25

MERCHANDISING

What One Independent Jobber is Doing to Protect His Business During Wartime..... 27

MARKETS

Mid-Continent 47
Mid-Western 47
Pennsylvania 47
California 47
Gulf 47
Atlantic Coast 47
Refinery Prices....48, 49
Seaboard Prices 50
Tank Wagon Prices 51, 52
Crude Oil Prices..53, 54

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THIS WEEK WITH NPN

NPN IN NEW DRESS

We're designing a new NPN cover. It will give the week's news highlights and an index to news stories. In addition, there will be a column of latest last-minute bulletins which break *after* presstime for the news section. Cover for NPN's Refinery Technology edition will have R-T technical articles as well as news items. NPN's showcase with samples—that is best way we can describe it. Wait and see.

* * *

MORE AND MORE NEWS

NPN readers will note that our news section is still expanding. Last week, it was up to 21 pages; this week, 22 pages. And news developments show no signs of slackening along the oil front.

* * *

CONVENTION SEASON

Mid-winter oil convention season is now in full swing. Each week there are several state association meetings. NPN is doing its best to cover them all in person. NPN Editor Platt is on many of the programs. Last week, he spoke at the Kentucky and Missouri meetings; next week, he will talk at the Kansas convention. Herb Taylor, NPN staff writer, was also at the Missouri meeting. NPN Managing Editor Guthrie will cover the Kansas and Iowa meetings. News report and pictures of the Kentucky and Missouri meetings appear on Pages 2, 16, 56.

* * *

OIL MEN IN THE WAR

All over the country, oil men are "joining up" for the war's duration. Some are entering the Army and Navy. Others are taking posts with government defense agencies or in civilian defense activities. When you or an oil man friend "join up" why not drop us a line, telling of war service with details, and picture, too?

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Missouri Jobbers' Group Elects J. A. Salter

For more than a dozen years, J. A. Salter, Kirksville, Mo., new president of Missouri Independent Oil Jobbers Assn., has been "collecting" NPN. Each week, after he has finished reading "my favorite news magazine", Mr. Salter files his copy away. (He has stacked them in orderly piles at his home for ready reference.) So, it was only natural that Mr. Salter had an NPN under his arm when his picture was snapped at the M.I.O.J.A. convention last week (See Page 16).

NATIONAL PETROLEUM NEWS

VOLUME 34 WEDNESDAY, FEBRUARY 18, 1942 NUMBER 7

Surcharge Granted To Tanker Owners

NPN News Bureau

WASHINGTON, Feb. 16.—Tanker owners, now burdened with costs of war-risk insurance premiums, crew war bonuses and other added expenses by order of the U. S. Maritime Commission, were given relief today when War Shipping Administrator Land approved a 37.5% surcharge on certain voyage charters.

Provides 37.5% Increase

Administrator Land, who is also chairman of the Maritime Commission, granted the 37.5% surcharge on voyages between U. S. Gulf and Caribbean ports and the Atlantic Coast—Miami, Fla. to Montreal, inclusive. It applies to maximum voyage charter rates established by the Maritime Commission in its general Order No. 52. Nearly 2 weeks ago, NPN reported an impasse on voyage charter rates. These rates stated either that the Commission would revise its maximums to give relief to tanker owners, or the government would take over all tankers. (*NPN Feb. 4, p. 17*).

Sohio To Require Capacity Delivery And Payment Cash

NPN News Bureau

CLEVELAND, Feb. 17.—Ohio Standard plans to convert all of its dealers to a policy of "capacity delivery on a cash basis." Instructions have been received by Sohio's division managers to put this policy into effect as soon as possible but not later than April 15, it was learned today.

Stations with large tanks will be required to take a full truck load, or as much as their tanks will hold—and to pay for the delivery in cash on the spot.

Advantage of the plan is that it will conserve tires by obtaining maximum dumps, thus reducing deliveries. And if cash were not required on delivery, large amounts of money would be tied up (which is not advisable in these uncertain times).

'Legal Basis' for OPC Activities Believed Aim of Cole Oil Hearing

(Earlier story on Ickes testimony appears on Page 5)

WASHINGTON, Feb. 17.—Congressional action to give a "legal status" to the Office of Petroleum Co-ordinator is apparently the objective of reopened hearings by the Cole oil investigating committee.

This was indicated by the line of questions aimed at Co-ordinator Ickes upon conclusion of his prepared statement today.

At present, OPC's authority rests entirely on President Roosevelt's letter of May 28, 1941, directing Interior Secretary Ickes to co-ordinate the governmental activities dealing with oil and the industry's efforts in the defense program.

Questions by members of the committee indicated that the group believes the time has come to enact legislation giving OPC a firm, statutory basis for its activities; also, to set boundary markers for limits of Mr. Ickes' jurisdiction. The Co-ordinator, himself, reiterated that the OPC was a "temporary" agency.

Another move the Cole group favors is congressional action to provide definite authority for circumvention of anti-trust laws in the case of oil companies working together in pursual of the war effort.

Mr. Ickes is inclined to agree with the latter; disagrees with the former. When you are united in a co-operative effort for accomplishment of a defined purpose, a purely co-operative spirit will accomplish much more than the wielding of a legal club, he told the Cole committee.

Cole subcommittee hearings were held in the New House Office Building with Rep. Clarence F. Lea, Calif., chairman of the House Interstate and Foreign Commerce Committee, presiding. Rep. William P. Cole, Jr., Md., chairman of the oil subcommittee, was absent because of illness. Sitting with Representative Lea were: Herron Pearson, Tenn.; Edward A. Kelly, Ill.; Charles A. Wolverton, N. J.; Pehr G. Holmes, Mass.; and Lyle H. Boren, Okla.

Hearings to Reconvene

Upon adjournment, Chairman Lea said hearings would reconvene "sometime next week", when OPC officials and oil industry representatives will be heard.

Hearing today was crowded but quiet. Mr. Ickes leaned on his elbows to read his prepared statement, oscillating his swivel chair from side to side. Questions from the committee were particularly friendly and praise for the job OPC is doing was expressed by both Chairman Lea and Representative Wolverton.

"If my compliment is worth anything, I certainly extend it to you and to the oil industry," the New Jersey Congressman said.

Although hearing before Defense Transportation Director Eastman is scheduled Feb. 19 on Trans-American Pipe Line Co.'s proposed crude line from Wichita Falls, Tex., to Savannah, Ga., Mr. Ickes said "No" when asked by Representative Kelly if he thought more pipelines—in addition to the 24-in. Texas-New York line—should be built in the U. S. OPC, Mr. Ickes said, would be thankful to get steel for the big Texas-New York line, let alone any others.

Ickes Asked About Rationing

Representative Kelly then asked the Co-ordinator if it would not be better for OPC to handle rationing, should it become necessary, since OPC is already handling other oil industry problems.

"Thanks for the compliment", Mr. Ickes replied, "but I don't want the job."

After the Co-ordinator outlined how co-operation with OPC is obtained by voluntary action through the oil advisory committees and the Petroleum Industry War Council, Representative Wolverton asked if the committees had any legal status. Mr. Ickes replied that they had none, adding "I haven't much legal status myself".

The New Jersey Congressman then asked if "it had ever occurred" to Mr. Ickes to seek an act of Congress under which to carry out OPC's activities and if he (Ickes) knew of any legislation he'd like to suggest.

"I don't think so," the Co-ordinator replied.

'Would Welcome Legislation'

Later, Chairman Lea said the Cole oil subcommittee "would welcome legislation". Representative Wolverton, earlier, had stated that he thought government officials were "taking quite a lot into their hands" when they decide among themselves whether individuals or companies can or cannot violate acts of Congress. He admitted that, were he a government official under times like these, he, too, would want to take the matter into his own hands and get the job done. However, he indicated he feels the emergency necessity for this action is over and that Congress could now act to provide legal shelter from anti-trust prosecution—without changing our basic anti-trust laws—and could also provide "legal status" for OPC and its advisory groups.

BULLETINS

ADDITIVE RATIONING

WASHINGTON—Office of Petroleum Co-ordinator is working on plan to reduce amount of chemicals used in lubricants, it was learned today. Plan is to effect an over-all saving with least possible hardship on refiners. Petroleum industry may have to reduce its consumption of chlorine by 25%. OPC may recommend use of chlorinated gear lubricants in transmissions, holding that they may be used only in rear axles.

TEXAS QUOTA DEFERRED

AUSTIN—With Chairman Thompson and Commissioner Sadler out of town, Texas allowables may not be set until their return. March nominations, taken Feb. 16, totaled 1,845,171 bbls. daily, a drop of 122,838 below February. At statewide hearing, Rex Baker, Humble representative, said Humble's storage in southwest Texas would be filled for high octane, low gravity crude by March 10, and reduced

(*Continued on Page 6*)

Axis Stretches Oil Supplies With Program for Synthetics

NPN News Bureau

NEW YORK, Feb. 16. — A long-range plan of holding down domestic crude production, stepping-up synthetic oil output, and importing as much petroleum as possible apparently has given Japan enough oil to fight for 10 years, even if oil resources in Netherlands East Indies are completely destroyed, B. Orchard Lisle, of Ashland Oil and Refining Co. told American Institute of Mining and Metallurgical Engineers last week.

He said civilian requirements in all probability are being held down to about 20,000,000 bbls. annually with combined military and civilian consumption coming to about 45,000,000 bbls. a year. Presuming that imports obtained through re-routing vessels from intermediate destinations, plus unrecorded naval purchases, have approximated naval and military consumption in the past, Mr. Lisle said it has been calculated in this manner that Japanese oil stocks have risen from about 40,000,000 bbls. in 1935 to about 219,989,000 bbls. at the end of 1941.

Although some of "the component figures are fairly arbitrary," he said they "do give an approximation of what must be the true situation."

In addition to these reserves which are four times greater than combined military and civilian requirements of 45,000,000 bbls. a year, Japan's 7-year synthetic oil program calls for an output of 15,215,300 bbls. of synthetic and shale oils in 1942, increasing to 20,447,800 bbls. in 1943 and to 24,345,300 bbls. in 1944, he said.

Since previous reports indicated Japan deliberately shut down many of her fields, Mr. Lisle believed crude production would show an increase.

Japs Had Long-Range Plan

"Therefore," he declared, "it would seem that Japan's long-range naval fuel oil policy has enabled her to assure herself of adequate oil supplies for as much as a decade of hostilities, even if she should not succeed in acquiring control over the oil fields of Netherlands India. Oil is not the Achilles Heel of Japan!"

In 1937, he recalled, Japan launched a 7-year synthetic oil program which has been followed "pretty steadily with only a few temporary delays." Plan called for erection of hydrogenation plants in the Empire to have an ultimate gross annual output of about 6,300,000 bbls. of gasoline and a similar quantity of heavy oils. Fischer-Tropsch units also were to be built, contemplating an output of 2,450,000 bbls. of gasoline and 7,130,000 bbls. of heavy oils. In addition to the 22,180,000 bbls. annual output from coal and its by-products, he said, an intensive program was decided upon for development of shale oil products, ultimately to reach an annual output of 7,000,000 bbls.

The list of these projects, he said, included 16 low temperature carbonization plants, 2 shale oil distillation projects, 13 hydrogenation plants, 10 Fischer-Tropsch plants, and another which is probably hydrogenation although the exact nature is not known.

Nazis Have Plants, Too

Germany, too, has endeavored to build up a synthetic oil output which may reach 61,699,000 bbls. annually this year. He estimated that synthetic production rose from 29,921,000 bbls. in 1939, to 35,376,000 bbls. in 1940, and to approximately 46,188,000 bbls. in 1941.

"This increase," Mr. Lisle asserted, "has been effected principally by expansions in hydrogenation and synthesis. Bergius and I. H. P. hydrogenation plants were estimated to have a 1941 output rate of 24,816,000 bbls., whereas the 1942 rate should reach 33,075,000 bbls. Fischer-Tropsch and Fischer-Pichler synthesis plants are believed to have been expanded from the 1941 figure of 7,021,000 bbls. to 12,915,000 bbls. Uhde extraction-hydrogenation seems to now be at the rate of 1,575,000 bbls. compared with the previous year's figure of 357,000 bbls. No details are available as to increases in output of other processes."

Refinery Operations Report Delayed

American Petroleum Institute's report on refinery operations for the week ending Feb. 14 were delayed and not available in time for NPN's Feb. 18 issue. These figures will be carried in full on Feb. 25.

Amended Damage Suit Filed At Madison By 20 Jobbers

Special to NPN

MADISON, Wis., Feb. 14.— Amended complaints in 20 jobber suits against the Socony-Vacuum Oil Co., and other major companies convicted here in 1938 of conspiring to raise and fix gasoline tank car prices, have been filed in Madison federal court.

In each case they allege the plaintiff did not pass on to customers any part of the alleged price increase resulting from the conspiracy. Amendments were accepted, without opposition from the defendants, in the light of Judge Patrick T. Stone's recent decision in the case of S. P. Leonard, jobber of Lidgerwood, N. D., in which he ruled that damages can not be recovered by a reseller who cannot show that he did not pass on the price increase.

The original amended complaint was offered on behalf of the Northwestern Oil Co., Superior, Wis., which is suing for the largest damages sought by any one jobber in a long list of civil actions growing out of the oil anti-trust case.

The Northwestern company, which alleges a loss of $750,000 and seeks to recover three times that amount under the Clayton Act, is represented by William P. Crawford, Superior attorney who served on the prosecution staff in the conspiracy trial, and Paul E. Hadlick, Washington, D. C., secretary-counsel for National Oil Marketers Assn.

Judge Stone granted them permission to file similarly amended complaints on behalf of 19 other plaintiffs they represent.

Amendment Quoted

In addition to stating that the plaintiff "did not, during the years 1935 to 1940, inclusive, pass on to those to whom it sold and delivered gasoline which it purchased on the spot market, all or any part of the amount by which the cost to the plaintiff of said gasoline was increased by means of the conspiracy," the amendment alleges:

"That a portion, approximately 2%, of all gasoline furnished plaintiff from 1935 to 1940 inclusive, in tank car lots, at said spot market price as enhanced by said conspiracy, was not distributed or resold by plaintiff but that as was necessary and customary in plaintiff's business, to defendant's knowledge, such portion of said gasoline was consumed by the plaintiff in operation of its motor vehicles in the distribution of said gasoline to its customers, and by shrinkage and evaporation and by loss and waste in the distribution thereof after the same was purchased and paid for."

Other jobbers, mostly in northern Wisconsin and Minnesota for whom similarly amended complaints were accepted, are the Consumers Oil Co., Sterling Oil Co., Olmstead County Oil Co., Golden Rule Oil Co., Petroleum Service Co., Highway Oil Co., Superior Refining Co., O'Brien Oil Co., 906 Master Service, Inc., Independent Oil Co., Westland Oil Co., Lloyd's Direct Service Station, Direct Oil Service Corp., William D. Jornlin, Kelly Oil Co., E. J. Pegg garage, Black Eagle Oil Co., and George W. Farnham, receiver for Syreen Oil Co.

Two States Set Hearing Dates To Determine Crude Demand

Special to NPN

OKLAHOMA CITY, Feb. 16. —Hearings to determine market demand for crude oil will be held here by Oklahoma Corporation Commission Mar. 26, Reford Bond, chairman, announced today.

Kansas Corporation Commission has announced hearings on market demand for crude will be held in Wichita, Kans. Mar. 24 at the Allis Hotel. Kansas hearing will include consideration of amendments to general rules and regulations for conservation, announcement said.

U. S. Crude Production Drops

NPN News Bureau

NEW YORK, Feb. 17 — Production of crude in U. S. during week ended Feb. 14 averaged 4,078,500 bbls. daily, 258,400 bbls. less than previous week's all-time record high, according to American Petroleum Institute.

Pennsylvania to Discuss Horizontal Drilling Plans

BRADFORD, Pa., Feb. 17.— Granting of a charter to the Venango Development corporation to operate in Pennsylvania has prompted the corporation's sponsors to call a meeting for March 4 in Oil City to complete organization.

Directors and officers will be elected. The objective for which the corporation was formed—digging of an eight-foot circular shaft to a depth of 400 ft. near Franklin in Venango county, Pa., to permit drilling of horizontal wells in quest of Pennsylvania crude—will get thorough discussion at the session. (*See NPN Feb.* 11, *p* 5—*ED.*)

NPN Reports from

WASHINGTON

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Warren W. Burns
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News for ALL branches of the Oil Industry from NPN's own bureau

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Ickes Tells Congress of Oil Situation, Says Industry Wants Rationing for East

By Teletype
NPN News Bureau

WASHINGTON, Feb. 17.—Armed with a far from optimistic report by heads of the nation's biggest oil companies on outlook for East Coast supplies, Petroleum Co-ordinator Ickes came down to Capitol Hill today and told Congress' oil watchdog—the Cole Oil Investigating Committee—that he will again ask for steel to build a 24-in. pipeline from East Texas to New York.

Mr. Ickes' 31-page statement, blanketing virtually every wartime problem of the oil industry, was a carefully-prepared argument leading paragraph by paragraph to this inescapable conclusion:

Construction of a crude pipeline is our best answer to Nazi submarine attacks on the tanker lifeline.

Tankers are being sunk faster than they come off the ways, Mr. Ickes said. And East Coast stocks now represent only a 39-day supply despite operation of the Southeastern, Plantation and Portland-Montreal pipelines and a record-breaking rail movement of oil into the eastern area now averaging 222,975 bbls. daily. This compares with a 43-day supply last year when the Atlantic Coast was 95% dependent on tanker transportation.

Quoting oil executives' opinion on the East Coast situation, Mr. Ickes said:

"Available tanker transportation decreased substantially during the month of January due to sinkings, diversions and new regulations. Only partially offsetting this are substantially increased use of tank cars, the coming into operation of the Plantation Pipeline and increased operations of the Southeastern Pipeline.

"So far as the over-all outlook for transportation facilities between now and April 1 is concerned, while the completion of several tankers is hopefully anticipated, it seems only reasonable to assume that these cannot be expected to offset further diversions already in sight and possible additional sinkings."

Proposes 15% Cut For All Products Used in the East

A 15% curtailment in total East Coast consumption of all petroleum products during the next 6 weeks—or until April 1 when *total* consumption normally falls off—is necessary, in the opinion of the oil executives consulted, Mr. Ickes said.

7 to 7 Plan Favored

It is now impossible to predict whether or not curtailment will be necessary after this date, Mr. Ickes said, reading from a report by the oil executives, but the immediate need to cut consumption is urgent. To accomplish this, the executives favored:

1—Service station closing in the East from 7 to 7 and all day Sundays.

2—A public appeal to cooperate in saving gasoline and heating oil.

If these steps are not effective, "positive rationing will be necessary", the report said.

Coupon Books Favored

Mr. Ickes reported that the oil company heads favor consumer coupon books—placing rationing at the retail level—if it becomes necessary.

"Some of the principal methods of obtaining fuel economy have been more definitely set forth by the marketing committee of District No. 1, Mr. Ickes said.

"They asked that the Maritime Commission arrange for some ships with coils, now in clean service, to be diverted to transport heavy fuel.

"They urged adoption of a priorities system for heavy fuels and, through appropriate authorities, a program whereby a substantial number of users of industrial fuel would change to coal where they can do so promptly at little expense; also that no new installation using industrial fuel oil be made except for strictly defense work.

West Coast Cut Urged Also

"Since a number of East Coast tankers have been diverted to help out the West Coast, the oil men suggested that it would seem only fair that West Coast consumption should be curtailed to about the same extent as may be decided upon for the East Coast. They also expressed the hope that means can be found to increase the efficiency of tanker use on the Pacific Coast."

In outlining the oil executives' proposal for an immediate 15% curtailment in East Coast consumption, Mr. Ickes remarked that "rationing of anything runs against the grain with me. I have the greatest distaste for visiting anything of the kind upon the American public, and will come to it only as a last resort."

He said he believed the call for co-operation in product conservation would be met with better public response now that we are at war. He pointed out that similar measures taken last summer had a "dubious" effect.

He made it plain, however, that if rationing were necessary, it would be put into effect and that it would be accomplished through consumer coupons.

"I have discussed with Mr. Leon Henderson, as the Administrator of Civilian Supply," said Mr. Ickes, "the question of a rationing system, should it become absolutely necessary that one be installed, and the staffs of our respective offices have already done much work in the perfection of a plan."

Regarding oil industry's proposal for 7 to 7 closing and all day Sunday, Mr. Ickes said OPC has this under consideration and "when certain further facts, that will enable us to appraise its value, are obtained, we shall make final determination."

He emphasized that Sunday closing of stations did not mean motorists would be denied use of their cars. "Sunday driving is sometimes more essential than Monday driving", he said. But OPC believes, however, that American motorists will feel it their patriotic duty to use their cars only when necessary.

Peace Pipe Smoked By Ickes and Pelley

Since Senator Maloney's committee hearings early last fall, when Office of Petroleum Co-ordinator and the Assn. of American Railroads hotly disputed the "availability" of tank cars, Mr. Ickes and A.A.R.'s president, John J. Pelley, have buried the hatchet, the Co-ordinator indicated.

"We were delighted", Mr. Ickes said in speaking of increased rail shipments of oil to the East Coast. "The oil companies and the railroads set up a record which I am frank to say I had doubted was possible." Mr. Pelley is working closely with OPC, the Co-ordinator added, expressing pleasure over results achieved. The great increase in rail shipments to the East is due in large measure to higher efficiency in handling cars, he asserted.

The Petroleum Co-ordinator

devoted a large bulk of his prepared statement to a review of OPC's activities in meeting wartime demands for oil, thus bringing the Congressional committee up to date on developments.

Necessarily, he said, new regulations bring about temporary —and this word he emphasized — hardship, "particularly on those who operate on a slim margin of capital, the small independent operators in every branch of the industry."

Stating that OPC is aware of this problem, Mr. Ickes said: "We know that the welfare of the small independent is vital to the proper functioning of the industry as a whole. The Petroleum Co-ordinator is concerned to see to it that no small operator is unnecessarily injured or forced out of business."

Oil Men Who Conferred

Those who conferred with Mr. Ickes last week on the East Coast oil situation were: W. S. Farish and Stuart Coleman, Jersey Standard; F. Frank Drake, Gulf; H. F. Sinclair, Consolidated; J. W. Carnes, Sinclair; W. S. S. Rodgers, Texaco; R. H. Colley, Atlantic Refining; R. E. Wilson, Pan-American; B. I. Graves, Tide Water; F. A. C. Guspin, Shell and W. D. Mason, Sun.

James Duce to Head OPC's Foreign Unit

James Terry Duce, Office of Petroleum Co-ordinator's newly-appointed director of the Foreign Division comes to OPC from the vice-presidency of California Arabian Standard Oil Co. He was stationed in San Francisco and has held this position with California-Arabian for past two years.

Prior to this time, Mr. Duce held the position of vice-president with following companies: Texas Petroleum Co., Texas Co. of Venezuela, Ltd. and Columbian Petroleum Co.

Mr. Duce has been in the oil business 30 years, starting as geologist with Texaco. He has spent considerable time in South America and for past two years "had been planning every week to take a trip to Arabia," but never got there.

Last week, Mr. Duce was named OPC representative on the Foreign Petroleum Policy Committee, organized to "provide a central place for joint consideration of foreign oil problems coming up from day to day." (*For more details on this committee, see NPN Jan. 21, p. 9*—Ed.).

James Terry Duce

BULLETINS

(*Continued from page 3*)

nominations are necessary. Dr. F. V. L. Patten, Railroad Commission Production Supervisor, recommended reducing East Texas quota 15,000 to 20,000 bbls. daily to offset pressure drop.

* * *

E.O.T. TO WASHINGTON

AUSTIN — Chairman Ernest Thompson of Texas Railroad Commission left for Washington Feb. 17 on invitation of Defense Transportation Director Eastman to attend Feb. 19 hearing on crude pipeline from Texas to Savannah, Ga., proposed to be built by Trans-American Pipe Line Corp.

* * *

PRICE SCHEDULE AMENDMENT

WASHINGTON—Office of Price Administration today issued Amendment No. 4 to Price Schedule 88, providing that where maximum price for products cannot be determined, the seller may sell such products at the market price prevailing at the time of sale, provided he gives notice of such sale to OPA within 15 days after it is made. The amendment is effective as of Feb. 2.

* * *

SUBS ATTACK ARUBA

WASHINGTON — German submarines sank 2 tankers in Aruba early on the morning of Feb. 16, authoritative source said. In New York, New Jersey Standard said submarines did not damage Lago Oil and Transport Co. refinery when they shelled the area. No casualties were inflicted on shore employees or their families.

OPC Official Warns M-68-C in Force Until Amendments Have Been Approved

Some equipment manufacturers are operating under assumption that proposed amendments to Conservation Order M-68-C will be acted upon favorably by Office of Petroleum Co-ordinator and War Production Board, an authoritative source told NPN this week, adding that such manufacturers are liable to criminal prosecution under provisions of M-68-C.

This source also pointed out that OPC has no authority to grant exceptions as this is in hands of WPB exclusively, although OPC does make recommendations.

It was also reported that some marketers are installing equipment at various defense projects assuming their requests to do this would be approved in view of nature of projects. Such marketers are also open to prosecution, it was said. They should first make application on OPC form PD-215.

Status of M-68-C amendments at first of week was uncertain, but one high source reported them as still being in the hands of OPC's legal staff.

Countersignatures Plan

When P-98, the general priorities order for oil industry, is rewritten in next week or so (P-98 expires on Feb. 28), the provision requiring countersignature at nearest OPC office may be liberalized, a well-informed source advises NPN.

Little likelihood of this provision being eliminated between now and Feb. 28 was seen by this source, who said that while OPC recommended to WPB that countersignatures be eliminated on repair and maintenance orders, as well as on purchases of $1000 and under, probably nothing of this kind would be done.

OPC's Chicago Address

The Chicago address of the Office of Petroleum Co-ordinator was erroneously listed in NPN, Feb. 11, p. 8, as 624 South Michigan Ave. This is the location of the District 2 General Committee. Correct address of OPC staff in Chicago is: Suite 1336, 120 South La Salle St.

TRANSFER OF TIRES

WASHINGTON—Transfer of tires from one vehicle to another—when both vehicles are owned by same person or company—was officially approved today by Price Administrator Henderson in an amendment, effective Feb. 16.

Boyd Pledges:

Oil Was Ready before Pearl Harbor, Will Again Float Allies to Victory

William R. Boyd, Jr.

Oil Industry is determined that in World War II, as in World War I, the Allies shall "float to victory on a sea of oil," Chairman William R. Boyd, Jr., of Petroleum Industry War Council said last week.

In a formal statement, he declared the industry faces—and has accepted—the responsibility of keeping in action the 185,000 airplanes, 120,000 tanks and 18,000,000 tons of shipping that could not fight a single dogfight, blitzkrieg a single enemy line, or steam out of port in battle array without petroleum.

Oil men did not wait until the

Japanese dive-bombed Pearl Harbor one peaceful Sunday morning before they began converting their industry to the "AA" priority of war. Instead, they began last summer to revamp peacetime operations so that they could fill the needs of the war machine.

In this regard, he cited the tremendous expansion of 100-octane production. But he also called attention to the less spectacular job of supplying "huge amounts" of other gasolines, special military lubricants, diesel and bunker oil for ships, and industrial oils for war factories.

Processing those products out of crude was one problem. Transporting them, another.

Accordingly, Mr. Boyd said, "the industry has . . . virtually made over its transportation system, which had been many years in the making. Tank cars have been pressed into service to unprecedented degree, despite the much greater cost as compared with water shipping; new pipelines have been built and old ones have been extended and brought to higher efficiency, trucks and barges have been called upon as never before." He declared the industry "has done its job rather well" and is doing it "better and bigger—every single day".

"The industry, like the Government, has one purpose which transcends all others: to win the war, as quickly and as decisively as possible. Working together, we shall achieve that purpose."

'Bob' Allen Shows He's 'Proved Producer' at OPC

A change in title to Assistant Deputy Petroleum Co-ordinator from Production Division Director, in the Office of Petroleum Co-ordinator, is undoubtedly all the change there will be in Robert E. "Bob" Allen. Titles never bothered him.

OPC's Assistant Deputy Co-ordinator Allen is equally "at home" behind a polished desk in Washington's wartime atmosphere or beside a rotary table in any oil field and in any atmosphere.

Combining executive ability with practical field experience, this OPC executive works in an office whose walls are covered with maps and one large picture: an oil well—which gives oil men who call on him that "at home" feeling.

Most oil men conferring here with Mr. Allen ("Bob" to more than a few) are encouraged to speak freely—and reports indicate most of them do. Maybe the maps and the oil well picture unconsciously make them realize they are talking with a man who understands their problems. Maybe it's a typical remark, such as "pull the chair closer, have a cigarette," that prompts them to "open up". Maybe it's his interest in the problem at hand. Probably it's a combination of everything. But the result is—and it's a good guess that Deputy Petroleum Co-ordinator Davies knows—that Mr. Allen is as well informed and as close to the petroleum industry as any man in Washington.

While Mr. Allen never studied for a doctor's degree, his role as such—both to the oil industry and OPC—would justify the title, for when things go wrong, it's "Let's talk it over with Bob", "Call Bob in", or "Bob will know what to do". Nobody knows what kind of medicine this "doctor" uses but it usually works.

Started as Roustabout

One oil man sums up Mr. Allen's vast grasp and understanding of facts thus: "He started as a roustabout in the oil fields, has worked his way up, been a square shooter all the time and the industry trusts him". To which Petroleum Co-ordinator Ickes, Deputy Co-ordinator Davies and his entire staff echo "ditto".

It's not unusual for OPC's Assistant Deputy Co-ordinator to be in conference with Mr. Davies during the morning, afternoon and night. Like most other OPC executives, the clock to Mr. Allen and his boss is only an instrument to co-ordinate appointments and means nothing when it reaches 5 p.m.

Mr. Allen's oil experience started in northern West Virginia. Following graduation from West Virginia University in 1920, he went to California and worked as a well repair man in the Salt Lake, Santa Maria and Midway fields. Then oil fields in New Mexico, Texas, Mexico and Australia became a familiar sight.

When F. C. Van Deinse was appointed California's first oil umpire, Mr. Allen became his assistant and served in this capacity under H. P. Grimm, Neal H. Anderson and J. R. Pemberton who, successively, were oil umpires for the Golden Bear state.

During the NRA days, Mr. Allen was a member of a 3-man committee which, at the request of Secretary Ickes, then oil administrator, made a study of effect of the oil code on small units in all branches of the oil industry.

Mr. Allen came from the chairmanship of the Petroleum Conservation Board of Alberta, Canada.

Robert E. Allen, Assistant Deputy Petroleum Co-ordinator

WPB Allows More Natural Gas Wells

Drilling restrictions on natural gas wells were eased for the Appalachian area last week to increase natural gas supplies for war industries, and War Production Board ordered a curtailment in the consumption of natural gas and mixed natural and manufactured gas.

The restriction against drilling more than 1 well to each 640-acres, contained in Conservation Order M-68, was modified to permit the drilling of 1 well to each 160 acres in Onandaga Limestone, Oriskany sandstone or Devonian shale in New York, Pennsylvania, West Virginia, Ohio and Kentucky. One well may be drilled to each 40 acres in other horizons in the same states.

Restrictions were relaxed by issuance of Supplementary Order M-68-1 on Feb. 13. It was effective immediately.

Limitation Order L-31, issued and effective on Feb. 16, curtailed natural gas consumption.

Parts of the order apply to the nation as a whole, but do not become operative unless a shortage occurs or is imminent.

In 17 states and the District of Columbia, however, the restrictions are effective Mar. 1, but do not affect present consumers.

The 17 states are Ala. (except area served by United Gas Pipe Line Co.), Ark. (only area served by Mississippi River Fuel Co.), Calif., Ga., Ill., Ind., Ky., Md., Mich., Miss. (except area served by United), Mo., N. Y., Ohio, Pa., Tenn., Va., and W. Va.

Gas companies in these states may not deliver gas for heating new homes, stores, factories or other buildings unless heating equipment is installed before Mar. 1 or the equipment is specified in construction contract and foundation under main part of building is completed before that date. Neither may they deliver gas for heating equipment converted from some other fuel unless conversion is completed by Feb. 26.

Burner Shipments Up

December's oil burner shipment totaled 21,915 compared with 21,813 for November, 16,535 for December, 1940 and 13,300 for December 1939, U. S. Department of Commerce reported this past week. Total burners shipped in 1941 was 303,869 compared with 264,232 for 1940 and 215,030 for 1939.

Tin Cans for Oil Industry Will Be Cut Off by Nelson

WASHINGTON, Feb. 17.—Japanese drive down Malayan Peninsula resulted last week in another sharp blow to the petroleum industry with issuance of an order forbidding canners of petroleum products to use after Mar. 1 any terneplate or tinplate cans manufactured before that date.

Canners of petroleum products may not use any cans between Feb. 11 and Mar. 1 which require more than 50% of the terneplate or tinplate used in the corresponding period of 1940.

With Malayan tin mines now in Japanese hands, War Production Board brought about drastic reductions in tin consumption by limiting the amount of tin, tinplate and terneplate to be used in cans. While tin will be supplied for food cans, WPB ordered that the use of tin, tinplate and terneplate in "non-essential" cans be discontinued entirely after Mar. 1.

Petroleum products were in the "non-essential" group which also included beer, dog food, dried beans of all kinds (including pork and beans), baking powder, cereals and flour, spices and condiments, and tobacco.

Restrictions on tin, tinplate and terneplate were contained in Conservation Order M-81, issued Feb. 11 and effective on the same date.

Order stipulated no canner shall buy or use for packing any "non-essential" cans between Feb. 11 and Mar. 1 which require more than 50% of the amount used during the same period of 1940, and no can manufacturer shall sell during that time any such cans unless the purchaser presents a certificate stating that he (the purchaser) is familiar with terms of the order and will not use any of the cans purchased to violate the order.

After Mar. 1 no can manufacturer shall make any cans from terneplate held in inventory on Mar. 1, except when permitted by WPB on basis of individual application stating that any other use of such terneplate would be "unnecessarily wasteful or wholly impracticable."

Likewise, no canner shall use for packing after Mar. 1 any "non-essential" cans manufactured before Mar. 1, except up-

(*Continued on page* 44)

Donald R. Knowlton

OPC Names Donald R. Knowlton To Direct Production Division

Knowledge of production allocation, well spacing, unit operation and related problems are subjects with which Office of Petroleum Co-ordinator's new Director of Production Donald R. Knowlton is on familiar terms. In fact, so familiar that he's the author of many production articles.

Like the man he succeeds (Robert E. Allen who becomes assistant deputy petroleum co-ordinator, see separate story, p. 7), Mr. Knowlton knows how to put a visitor at his ease and listen to "the other fellow's story". He comes to OPC from Phillips Petroleum Co.'s Bartlesville office where he was general superintendent in the production department. His record with Phillips dates from 1926 when he joined as a petroleum engineer at Borger, Texas.

In World War I, Mr. Knowlton served overseas in the meteorological service of the signal corps, being stationed at Colombey les Belle, San Michel and Verdun.

Mr. Knowlton has an A. B. degree in geology from the University of Colorado and a petroleum engineering degree from Stanford University. His oil days began with Empire Oil & Refining Co. in 1916. He also worked for Shell and Marland Oil Co. of California before joining Phillips. While with Phillips, he worked as assistant to the chief engineer and later chief engineer. Since 1935, Mr. Knowlton has been Phillips' general superintendent of the production department.

Mr. Knowlton was born Feb. 25, 1895 at Dubuque, Iowa. He is married and has 3 children, Nancy, John Warren, and David Cummings. His military record includes border duty at Brownfield, Tex., with the Colorado National Guard in 1916.

Price Law Policies Told By Henderson

Price Administrator Leon Henderson tossed off a glass of water, lighted a 9-in. "victory" cigar, wisecracked about his legality and legitimacy of his job (under the Emergency Price Control Act of 1942) and launched a discussion with a roomful of Washington newspapermen last week on what he intends to do with the new "teeth"—and halters to go with them—that his Office of Price Administration acquired when Congress finally passed and President Roosevelt approved the new price law.

Attacking his job with the same vigor and a $2000 a year boost in salary, the price chief was in a jovial mood as his "Procedural Regulation No. 1"—governing issuance, protest and amendment of maximum price regulations under the new law—made its first appearance among the reporters.

The regulation, briefly, provides that OPA's price schedules (now to be called maximum price regulations) henceforth will:

1—Be preceded by consultation with "representative members" of the industry affected—so far as "practicable";

2—Be preceded by a hearing—whenever the administrator deems a hearing "necessary or proper";

3—Be accompanied by a "statement of the considerations involved in its issuance" (as provided by the Emergency Price Control Act);

4—Be issued 5 days before the effective date—"unless an earlier or later date is specified therein".

Asked by a reporter what circumstances the administrator would deem as necessary to calling a hearing before issuance of a new price regulation, Mr. Henderson first replied that he might call a hearing "if we attack something radically new". The only radically new price field OPA invaded so far was that of cigarettes, he said. Later, expanding on the question, he said he might call a hearing if OPA bumped into widespread opposition to a particular price schedule.

Asked point-blank "When are we going to have gasoline rationing?" the administrator said, "We have no plan to install the rationing of gasoline but if the situation became acute and if it were certified to us that there was a need for it, we would know how to do it." Another reporter took up the "we would know how to do it" boast and asked if OPA's plans called for rationing at the wholesale or the retail level.

Grinning and posing with his now somewhat shorter cigar, Mr. Henderson said: "I'm not going to tell you."

The administrator had explained that it was not within OPA to decide the necessity for gasoline rationing, and had stated that War Production Board would make this decision.

Questioning this statement, a reporter asked: "You said it would be up to WPB to decide the necessity for gasoline rationing. Did you intentionally—"

Anticipating the question, the price chief interrupted and broadened his statement to include Office of Petroleum Coordinator and then said OPC was an industry advisory body to WPB and that it acted in a similar manner to advisory groups for other industries. He left the impression that he believes it will be up to OPC to decide the necessity for gasoline rationing and then to make recommendations along this line to WPB.

All price schedules issued by OPA since its creation on April 11, 1941, will remain in effect and Mr. Henderson emphasized at his press conference that they must continue to be observed. Violators of either existing or new price regulations will be subject to "criminal penalties, civil suits for damages, and injunctions", he said. However, existing price schedules may be protested under the same procedure outlined for protesting against new maximum price regulations (*See separate story "How to File a Protest"—Ed*).

From now on, OPA's price control orders will take two forms:

1—Maximum price regulations, similar to previous "schedules";

2 — Temporary maximum price regulations, which will remain in effect for 60 days but which *may* be replaced with "permanent" ceilings. Maximum prices established by the temporary regulations must be "based" on prices prevailing during the 5 days prior to their issuance.

In all of OPA's maximum price regulations, according to wording of the Emergency Price Control Act, the administrator "so far as practicable . . . shall ascertain and give due consideration to the prices prevailing between October 1 and October 15, 1941."

This policy, the administrator told his press conference, has been followed in connection with all schedules issued "during the past 6 weeks", and earlier schedules, he said, have been revised to comply with this requirement. "As new amendments to existing schedules are issued, the titles of the schedules will be changed to Price Regulations so as to bring them into conformity with future orders. The numbers assigned to the existing schedules will remain unchanged, however, to avoid confusion," Mr. Henderson said.

Price Czar Henderson doesn't need an amplifier

How to Protest On OPA Prices

Any Office of Price Administration maximum price regulation, either existing or future, can be protested by any person who is subject to provisions of any price schedule, as provided by the Emergency Price Control Act of 1942. Office of Price Administration defines a person subject to a price regulation like this:

"A person is, for the purposes of this Regulation (OPA's Procedural Regulation No. 1), subject to a provision of a maximum price regulation only if such provision prohibits or requires action by him." Protests filed by persons not subject to the provision protested may be dismissed by the price administrator, OPA states.

Action by a protestant may be taken on his behalf by another person only on condition that this person is, by written power of attorney, authorized to represent him. Such power of attorney, signed by the protestant, must be filed with the protest.

Protests should be filed with the Secretary, Office of Price Administration, Washington, D. C., within 60 days after date of issuance of the protested regulation or protested provision of the regulation, regardless of the effective date therein. However, protests based solely upon grounds arising after expiration of the 60-day period may be filed at any time after the grounds for such protests arise.

Every protest shall contain, upon the first page thereof, the number and date of issuance of the maximum price regulation against a provision of which the protest is being

made. One original and 4 copies of the protest and of all accompanying documents and briefs shall be filed. Each copy shall be printed, typewritten, mimeographed or prepared by a similar process, and shall be plainly legible. Copies shall be double spaced, except that quotations shall be single spaced and indented.

Protests received by OPA shall be assigned a docket number, of which the protestant will be notified, and all further papers filed in the proceedings shall contain on the first page thereof the docket number so assigned and the number and date of issuance of the maximum price regulation protested.

The protestant may file with his protest and accompanying evidential material a brief in support of the objections set forth in the protest. Such brief shall be submitted as a separate document, distinct from the protest and evidential material.

Provision is made for supplementing and amending earlier evidence, but no amendment to a protest which adds a new ground of protest will be permitted. Additional or supplemental data must be submitted within the 60-day period, but must be not later than 15 days after protestant files his first protest.

The administrator may dismiss any protest where either the protest or the accompanying material does not conform to the above rules, the OPA's procedural regulation provides.

Responding to protests, the price administrator shall, not more than 30 days after filing of a protest or more than 90 days after issuance of the protested regulation — whichever comes later—take the following action:

1—Grant or deny such protest in whole or in part;

2—Notice such protest for oral hearing;

3—Provide an opportunity to present further evidence in connection with such protest.

Notice of the administrator's action on protests shall "promptly be served upon the protestant." Where the administrator has ordered a hearing on a protest or has provided opportunity for presentation of further evidence, he shall "within a reasonable time," grant or deny such protest in whole or in part.

Immune from Evidence Rules

In oral hearings, Mr. Henderson is not required to follow courtroom rules of evidence. He may also exclude from hearings any person whose conduct he deems "contemptuous".

A special "Emergency Court of Appeals" is set up in the price law, with appointments to be made by Chief Justice Stone of U. S. Supreme Court.

Extra Copies

Extra copies of OPA Procedural Regulation No. 1—prescribing rules for the issuance, protest, and amendment of price schedules and maximum price regulations—have been printed for convenient reference by OIL-Law-GRAM and are available at the following prices:

(Minimum charge $1.00)

1 to 99 copies.....15c each
100 to 249 copies.....12c each
250 to 499 copies..... 9c each

Platt's OIL-Law-GRAM Reports

530 Penton Bldg., Cleveland, O.

OPA Rations Camelback Supply, Passenger Car Recapping Halted

Tire Rationing Violators Feel Sting of the Law

Tire rationing has reached the courts twice, Price Administrator Leon Henderson announced last week. He said a Federal Grand Jury in Indianapolis indicted an Indiana tire dealer on 8 counts of violating tire rationing regulations. In a civil action in Norfolk, Va., he said, Federal District Judge Luther B. Way issued a temporary order restraining unauthorized delivery of new tires and tubes when a purchaser filed suit in Norfolk Court of Law and Chancery to compel a tire dealer to deliver nearly $1500 worth of new tires allegedly bought last August.

Jones Heads P.I.W.C. Group

WASHINGTON, Feb. 16.—W. Alton Jones, Cities Service President, has been named chairman of Petroleum Industry War Council's national standing committee on transportation, P.I.W.C. Secretary Allan Hand said today.

Oil marketers who have tire renewal establishments encountered fresh difficulties this week with rationing of camelback and a prohibition against recapping or retreading of passenger car tires.

Under the new rationing program, scheduled to begin Feb. 19, camelback will not be available for passenger cars for rest of this month (perhaps not even in March), but will be for truck tires.

In corollary actions, provision was made for tire recappers and retreaders to obtain inner tubes for substitutes as airbags in the renewal process, and manufacturing specifications of tires and tubes were changed drastically to reduce rubber content 15% and save 10,000 tons of rubber annually.

To keep camelback manufacturers from sending all their supplies to their own retreading shops, it was provided that such manufacturers should not use a percentage of camelback greater than the percentage used in this manner for corresponding month last year.

This, in brief, is what rationing of camelback and retreads means to the oil marketer and others in such business:

1. He will be given an initial allotment of 750 lbs. of camelback for each truck mold he operates, none of which may be used for passenger cars. After that, he may obtain new supplies only to replace the amount of camelback he has consumed. Applications for this initial allotment must be filed with local rationing boards by Mar. 1 and the purchase completed by May 1.

2. He may recondition truck tires, but not passenger car tires for the time being. When this restriction will be lifted is not known.

Price Administrator Leon Henderson announced on Feb. 11 that this new phase of tire rationing would begin Feb. 19. He issued only a press release and a revised version of Tire Rationing Regulations. A spokesman explained that OPA lawyers felt his rationing authority (*NPN Feb. 4, p.7*) was broad enough to make it unnecessary for issuance of a specific order each time a rationing scheme is put into effect.

His original authority began, and ended, with rationing of consumer commodities at the retail level. Only 24 hours before he announced the new plan, War Production Board gave him the power to ration camelback and retreaded-recapped tires at wholesale level.

New rationing regulations contained a potential troublemaker. After Feb. 19, a retreaded or recapped tire cannot be obtained—even though an individual has placed it with a retreader for renewing—unless the local rationing board issues a certificate.

Rationing of camelback, retreading and recapping, and retreaded and recapped tires will follow same pattern and use same machinery as that of new tires.

Tire 'Eligibles' Increased

To facilitate the new rationing program, 2 classes of eligible users were specified—Lists A and B. List A is the same list used for rationing new tires, except that clergymen have been added.

While List B is made up in its entirety of vehicles that may obtain only reconditioned tires, no vehicle on this list will be able to obtain a retread in February. Passenger cars may not even be able to obtain them in March.

List B comprises only passenger cars, except that "trucks used for any important purpose, not included in List A" are eligible. Local boards will decide whether a truck is important enough to the community and the nation to warrant a retread. Mr. Henderson cited retail milk and food deliveries as "obvious examples."

Although List B actually is ineffective for the time being, it offers some hope to oil companies who depend in large part upon passenger cars to transport employes. Regulations said a passenger car is eligible if used to transport executives, engineers, tech-

(*Continued on Page* 14)

THE Editor's PAGE

Readers Comments and Opinions will be much Appreciated by—WARREN C. PLATT, Editor and publisher, Penton Building, Cleveland, O.

Oil Waits on Co-Operation FROM GOVERNMENT

Here is how Congress has told the Office of Price Administrator how it MUST CO-OPERATE with INDUSTRY. (See the adjoining column.)

These instructions from Congress are in the recent law that creates the Office of Price Administrator.

These instructions were NOT obeyed by OPA in "Price Schedule No. 88, Petroleum and Petroleum Products" which it issued 3 days after the President had approved the price control law.

OPA has not yet issued "a statement of the considerations involved" in its various orders reducing most companies' tank car prices and many other prices. What reasons prompted the general reduction, and what "evidence" of "inflation" OPA has, have not been made known to the oil industry.

Nor has OPA, so far as is known, consulted with representatives of the oil industry. In OPA's "letter" of Jan. 17th, in which it first reduced prices, open market and in contracts, to the "lowest of the lows" and made such reduction in contracts retroactive to Nov. 7th, OPA said it "has discussed with representatives and members of the petroleum industry" the "letters" previously issued. So far no one has been able to discover the identity of those oil persons. It also is known by a few people only, that some four or five oil men called on OPA after the Feb. 2nd "order" was issued and prevailed on it to postpone the effective date of the Oct. 1 prices.

As quoted in a press conference last week, Price Administrator Henderson said that he would consult with industry only "whenever the administrator deems it necessary or proper."

OPA now has two of its ex-oil men on a hurried trip to Chicago and Tulsa holding secret conferences with a few oil men regarding these "orders". Every one connected with these conferences seems to be sworn to secrecy.

Two OPA ex-oil men are scheduled to discuss prices at the meeting of the Kansas Oil Men's Association at Wichita, Kansas, next week. However there have recently been and will soon be other important marketing meetings in the Middle West where the "orders" of the OPA could and should be discussed.

Neither these secret conferences nor the belatedly scheduled appearance at the Kansas meeting, can hardly be said to comply with either the letter or the spirit of the instructions of Congress as to proper OPA co-operation with the oil industry.

Congress Tells OPA How to CO-OPERATE

"Every regulation or order . . . shall be accompanied by a statement of the considerations involved in the issuance of such regulation or order. . . . .

"Before issuing any regulation or order . . . the Administrator shall, so far as is practicable, advise and consult with representative members of the industry which will be affected. . . . .

"In the case of any commodity for which a maximum price has been established, the Administrator shall, at the request of any substantial portion of the industry subject to such maximum price, regulation, or order of the Administrator, appoint an industry advisory committee, or committees, either national or regional or both, consisting of such number of representatives of the industry as may be necessary in order to constitute a committee truly representative of the industry, or of the industry in such region, as the case may be. The committee shall select a chairman from among its members, and shall meet at the call of the chairman.

"The Administrator shall from time to time, at the request of the committee, advise and consult with the committee with respect to the regulation or order, and with respect to the form thereof, and classifications, differentiations, and adjustments therein.

"The committee may make such recommendations to the Administrator as it deems advisable.

"Whenever in the judgment of the Administrator such action is necessary or proper in order to effectuate the purposes of this Act, he may, without regard to the foregoing provisions of this subsection, issue TEMPORARY REGULATIONS OR ORDERS (caps supplied by Ed.) establishing as a maximum price or maximum prices the price or prices prevailing with respect to any commodity or commodities within FIVE DAYS (caps by Ed.) prior to date of issuance of such temporary regulations or orders; but any such temporary regulation or order shall be effective for not more than sixty days and may be replaced by a regulation or order issued under the foregoing provisions of this subsection. . . . .

"The powers granted in this section shall not be used or made to operate to compel changes in the business practices, cost practices or methods, or means or aids to distribution, established in any industry, except to prevent circumvention or evasion of any regulation, order, price schedule, or requirement under this Act."

From the Emergency Price Control Act of 1942, Section 2 (a) and (h).

Approved Jan. 30, 1942.

OPA's "Consultation" With Oil is Secret, If Any?

Regardless of how adversely the new price "orders" may affect oil companies, the big thing that the oil industry has to fear is the failure of OPA to give any consideration at all to the rights of the oil industry to be consulted, and to the need for real and honest and full co-operation with oil and all industry for the successful prosecution of our war effort.

OPA has not co-operated with, nor sought the co-operation of the oil industry in any real sense of that word, in all of its fumbling price-fixing efforts.

Nearly all of the friction and nearly all of the resultant cost of time and money, which have fallen upon the oil industry in its relations with government these past nine months, could have been avoided if the government agencies had consulted with the oil industry in advance on their actions. Even the advisory machinery that OPC particularly set up for that purpose, was not consulted on some of the most important orders and, as a consequence, those orders worked unnecessary hardship and expense on the oil industry and did nothing toward prosecuting the war.

The job of managing this war effort at Washington is tremendous. From a strictly organization standpoint it is most difficult. The Washington machinery requires all of the checks and balances that can be given it. And even with all these possible, there will be many errors and much waste of time and money.

The top executives at Washington are exceedingly busy. It has been difficult for them to keep track of their growing organizations. The immediate past proves that. These top executives need the co-operation of the whole oil industry to

check their own organizations, to keep their own men from making faulty decisions, because of lack of sufficient experience, or not having all the facts.

The Petroleum Co-ordinator's set-up together with the Petroleum Industry War Council is well built now to give, on behalf of the oil industry, this necessary co-operation to the management of the war effort. These auxiliary industry committees should be given every opportunity to supply that co-operation, on every question and on every proposed order.

Presumably, OPA also will make use of this OPC advisory industry machinery —at least we hope so, because OPA badly needs good advice.

The People are Partners

"The bewilderment and apparent complacency which grips the American people will vanish and the war effort receive the impetus it needs to start it on the road to victory if the government will change its present tactics and approach the job in a spirit of candor and co-operation.

"At present the tendency in Washington seems to be to run the war as an affair in which the American people are only secondary participants. The government too often acts as some detached, omnipotent super-committee and not as a human institution which is the synthesis of the combined efforts of all the people."

—The Cleveland Plain Dealer, 100 year old Democratic Newspaper, Feb. 15, 1942.

Oil's Own Committees Ignore Rest of Industry

But a word to this OPC advisory organization—it is not omnipotent nor omniscient. Nor is it authorized by the industry nor by the government to reserve to itself the making of all decisions without consultation with the ENTIRE Oil Industry. This advisory machinery on the whole has done, to date, a poor job of co-operating with its own industry that it is supposed to represent. There are some striking exceptions. This advisory machinery seems to consider itself as the final authority and not charged with any responsibility to the industry.

If that advisory machinery is to lead the rest of the oil industry, if it is to prevent association and independent committees from being formed within the industry, it must open its doors and its minutes to all of the industry. Times are too demanding, war conditions are too rigorous and devastating for men to sit idle while a group of their alleged "betters" meet in secret and decide their fate. If these thousands of men out in the oil industry and in its allied equipment industries cannot get proper hearings and representation through the present advisory machinery, they will—in various groups as necessity may dictate —take their stories direct to the deciding agencies of government, that is direct to the top officials of OPC or direct to the War Production Board and its subdivisions that actually make the decisions. Failing there, they will take their stories to Congress where wait, in increasing doubt and suspicion, many committees anxious to overhaul our none too certain nor victorious war machine.

A glorious job of industry co-operation can be done between this oil industry and government. We know that is the intent now of Petroleum Co-ordinator Ickes and of his Deputy Ralph K. Davies and of the Co-ordinator's staff. We know such co-operation is the sincere wish of every oil man because every oil man has his heart, his money and even his son and daughter in this war. Mr. Davies and associates are already seeking to improve the working of this co-operation. He will have every aid from the industry to that end.

Now we hope that Price Administrator Henderson will awaken to the injustices and the damage that his arbitrary and even illegal policies have caused the oil industry, and likewise endeavor to co-operate with the oil industry in order that the oil industry may co-operate with him.

The administration at Washington has been, of late, loudly demanding a "united people." We would say, and we think most readers will agree, that the American people are united, but the difficulty has been that Washington keeps moving away from the people, telling the people that "Washington" will decide all questions and then instruct the people what they are to do.

That cannot bring a united nation nor can it aid democracy.

NPN's Washington Directory Of Oil Agency Headquarters

Following is a partial list and directory of governmental agencies in Washington dealing with matters affecting the oil industry: (List is as accurate as possible but is only tentative as room and phone numbers are constantly changing). *Abbreviations code: Rm for room; Ex for phone extension.*

Office of Petroleum Co-ordinator

Interior Department (New Building) 18th and C. Sts., N. W., Phone No. Republic 1820.

Co-ordinator
Harold L. Ickes, Rm 6156, Ex 500.

Deputy Co-ordinator
Ralph K. Davies, Rm 6654, Ex 3831-2.

Co-ordinator's Staff
6th and 7th Floors, New Interior Bldg.

Special Assistants
George W. Holland, Rm 7312, Ex 643.
Gordon M. Sessions, Rm 7515, Ex 2621, 4446.
J. Elmer Thomas, Rm 6420, Ex 4735.
Howard T. Mather, Rm 6624, Ex 4626.

Production Division
Robert E. Allen, director, Rm 6647, Ex 3334.
Paul M. Raigorodsky, assistant director, Rm 6070, Ex 4774
Ralph J. Schilthuis, assistant director, Rm 6642, Ex 2907.

Refining Division
Wright W. Gary, director, Rm 6637, Ex 3233.
Robert B. Cragin, assistant director, Rm 6646, Ex 3237-4644.
Phillip M. Robinson, assistant director, Rm 7416, Ex 4786-87.

Transportation Division
H. A. Gilbert, director, Rm 6629, Ex 4418.

Marketing Division
John W. Frey, director, Rm 6623, Ex 4646.
Paul A. Best, assistant director, Rm 6625, Ex 3518.

Materials Division
William F. Huff, director, Rm 7134, Ex 4585.
Sturgis Stentz, assistant director, Rm 7314, Ex 4622, 4623.

Research Division
Edward B. Swanson, director, Rm 7313, Ex 649.
Oliver S. Ambrose, assistant director, Rm 7317, Ex 4777.

Conservation Division
Everett Lee De Golyer, director, Rm 7514-16, Ex 4459.

Legal Division
J. Howard Marshall, chief counsel, Rm 6649, Ex 4100.
David M. Hudson, associate chief counsel.

OPM Priority Consultant
James E. Hughes, Rm 7340, Ex 4616.

Executive Officer
Stanley W. Crosthwait, Rm 6515, Ex 4363.

Liaison
Gen. Walter B. Pyron
Liaison agent between Army Department and OPC, Phone RE 6700, Ex 6044, Rm 6261 New War Department Bldg.
Guy Holcomb
Head, Small Business Section, Department of Justice, Phone RE 8200, Ex 96, Rm 3410.

Information Division
Herbert A. Yocom, director, Rm 7515, Ex 3844, 4650.

Foreign Division
James T. Duce, Ex 4863, Rm 7446.
C. S. Snodgrass, assistant director, Rm 7427, Ex 4789.
F. Willard Bergen, executive secretary, Tanker Control Board, Rm 7512, Ex 4744.

Receptionist
Mrs. Rosalie E. Reid, Rm 6635, Ex 3429.

War Production Board

Petroleum Machinery and Equipment Section, Industrial and Office Machinery Branch, Division Industry Operations—Temporary Bldg. E, Third Floor, Seventh Wing, Phone Republic 7500, Ex 3441.
Dr. J. T. Sanders, chief of the section.
J. L. Choate, refinery equipment.
William L. Clark, production machinery.
David Logan, production and refining equipment.
M. A. Willner, production and transportation.

Oil Section—New Social Security Bldg., Rm 4613, Phone Republic 7500.
Dr. Walter Whitman, petroleum consultant, Ex 476, 477, and 478.
C. C. Monrad, assistant.

Office of Price Administration

Temporary D Bldg., 4th and Independence Ave. Phone Republic 5050.
Leon Henderson, administrator, Rm 46, Ex 5586
Dr. J. K. Galbraith, assistant administrator in charge of price division, Rm. 258, Ex 5203.
George Doffing, price executive of fuel section, Rm 253, Ex 5388.
Joseph H. Salmon, petroleum division unit chief, Rm. 253, Ex 6376.
Robert Collacott, head of refined products division, Rm 253, Ex 6636.
Dr. Walter Voskuil, chief of research, Rm 2530 Ex 6225.
Harry R. Booth, legal adviser, Rm 1604, Ex 6359

Congress

Congressional Oil Investigating Committee
Rep. Wm. J. Cole, Jr., chairman, New House Office Bldg., Rm 1535, Ex 699.

Senate Oil Shortage Investigating Committee
Sen. Francis Maloney, chairman, Senate Office Bldg., Rm 354, Ex 1196, phone National 3120.

Petroleum Industry War Council

William R. Boyd, Jr., Chairman, Suite 700B Shoreham Hotel. Phone No. ADams 0700. Allan H. Hand, secretary-treasurer.

U. S. Maritime Commission

Commerce Department Phone No. Republic 6620.
M. W. Bowen, tankers, Rm 4319, Ex 87. (Also vice-chairman of tanker control board under OPC).

keep 'em rolling and How!

Snow... sleet... icy roads... but the truckers keep on a schedule that's maintained day and night all Winter through. • All Winter through in many a big truck... small delivery car... or private sedan... Thermo-Royal Anti-Freeze is on the job helping to make that record of regularity possible! • Produced by the Publicker Commercial Alcohol Co., of Philadelphia, Thermo-Royal is a dependable Anti-Freeze and has been continuously available all Winter long! • *Crown Can* supplies containers in which Publicker, one of the largest producers of Anti-Freeze in the world, packs Thermo-Royal... the choice of millions of satisfied users!

CROWN CAN COMPANY, PHILADELPHIA, PA.
Division of Crown Cork and Seal Company. New York • Baltimore • St. Louis • Houston • Madison • Orlando • Fort Wayne • Nebraska City

INDEPENDENT AND HELPFUL CROWN CAN

Camelback Rationed; Recapping Curtailed

(*Continued from Page* 10)

nicians and workers to and from their work in "extractive" and other industries.

Another classification included passenger cars used "for the transportation of persons to enable them to render construction or mechanical, structural, or highway repair maintenance services".

Mr. Henderson pointed out that, by merely being on List B, a passenger car is not automatically entitled to retreads. In fact, anyone on List B must "establish to the satisfaction of the local board that his car is used exclusively on service essential to the community and to the Nation."

He promised, however, that if—and when—the rubber situation improves, tire quotas will be increased sufficiently to accommodate a greater number of List B vehicles.

Whereas the owner of a passenger car formerly had to demonstrate conclusively that his tires could not be renewed before the local board would issue a new tire certificate, only certificates for new tires will be issued to List A cars now. But if the new tire quota is exhausted, a List A vehicle will be given a "retread" certificate.

List A trucks still have to have tires renewed if possible, and these needs must be satisfied before those of List B vehicles. List A trucks may apply for retreads as soon as the rationing plan is effective.

List B truck-tire certificates may be issued only during the last several days of each month and then only if List A truck demands have been satisfied.

Since no List B vehicles may obtain retreads this month, this means List B trucks must wait until the end of March for tire renewal. Such applications must be made between Mar. 1 and Mar. 20, but no certificates may be issued until Mar. 25. No applications will be accepted between Mar. 20 and April 1. Same procedure will be followed each month.

Mr. Henderson said War Production Board sets monthly quotas on the amount, grade and type of camelback that may be manufactured.

OPA set a February quota of 325,318 new and retreaded tires and 335,178 new tubes, compared with 356,974 new tires and 298,546 new tubes in January. February quota included 80,784 new passenger tires; 156,029 new truck tires; and 88,505 retreaded tires for List A truck eligibles.

With List A cars restricted to new tires until the quotas run out, it may be possible to make available some camelback for the cars of defense workers.

Broad provisions regarding purchase of "obsolete" tires which in general applied to tires for cars more than 10 years old have been replaced by a provision prohibiting sale of such tires except to passenger cars on either Lists A or B.

Ceiling prices for new tires, retreads and the renewal must be posted prominently.

He said OPA, War Production Board, Justice Department and Patman Congressional Small Business Committee had received "numerous complaints" of inequitable distribution of camelback.

"It will be the policy of the OPA," he declared, "to do everything possible to see to it that all retreading establishments get their fair share of available camelback."

OPA, he added, "may find it necessary to institute compulsory allocation of camelback" if retreading establishments are not able to obtain their fair share of available camelback.

Mr. Henderson made provision for recappers and retreaders to obtain inner tubes used as substitutes for airbags. In applying for replacements, retreader must attest that he has no more than 1 serviceable airbag or tube for each operating mold, and sign an affidavit that he will use the tube solely for recapping or retreading purposes.

Airbags for which replacements are sought must be turned in. Not more than 2 tubes may be obtained each month for each operating mold.

Senate Gets Tire Theft Bill

A bill providing a penalty of three years imprisonment for theft of tires, oil, gasoline and other automobile equipment, in the district of Columbia, was passed by the House of Representatives and now goes to the Senate. It is H.R. 6375.

New and Retread Tire Eligibles Listed

APPENDIX—Eligibility Classification—LIST A

The following vehicles shall be eligible for tires or tubes *to the extent, and only to the extent* provided by chapter IV of the Tire Rationing Regulations:

(*a*) A vehicle which is operated by a physician, surgeon, visiting nurse, or a farm veterinary, and which is used principally for professional services;

(*b*) A vehicle which is operated by a regularly practicing minister of any religious faith and which is used principally in and is necessary to the performance of his religious duties;

(*c*) An ambulance;

(*d*) A vehicle used exclusively for one or more of the following purposes:

(1) To maintain fire-fighting services;

(2) To maintain necessary public police services;

(3) To enforce such laws as relate specifically to the protection of public health and safety;

(4) To maintain garbage disposal and other sanitation services;

(5) To maintain mail services;

(*e*) A vehicle with a capacity of 10 or more passengers operated exclusively for one or more of the following purposes:

(1) Transportation of passengers as part of the services rendered to the public by a regular transportation system;

(2) Transportation of students and teachers to or from school;

(3) Transportation of employees to or from any industrial or extractive establishment, power generation or transmission facilities, transportation or communication facilities, construction project, or farm, except when public transportation facilities are readily available;

(*f*) A truck operated exclusively for one or more of the purposes stated in the preceding sections or for one or more of the following purposes:

(1) Transportation of ice and fuel;

(2) Transportation of materials and equipment for construction or for mechanical, structural, or highway maintenance or repair;

(3) Transportation by any common carrier;

(4) Transportation of waste and scrap materials;

(5) Transportation of raw materials, semimanufactured goods, and finished products, including farm products and foods: *Provided*, That no certificates shall be issued under this paragraph for a tire or tube to be mounted on a truck used for transportation of commodities to the ultimate consumer for personal, family, or household use.

(*g*) Farm tractors or other farm implements other than automobiles or trucks, for the operation of which rubber tires or tubes are essential;

(*h*) Industrial, mining, and construction equipment, other than automobiles or trucks, for the operation of which rubber tires or tubes are essential.

LIST B

The following vehicles shall be eligible for tires or tubes *to the extent, and only to the extent* provided by chapter V of the Tire Rationing Regulations:

(*a*) A passenger car used principally to provide one or more of the following transportation services:

(1) Licensed jitney, taxi, or similar transportation service to the general public;

(2) Transportation of persons to enable them to render construction or mechanical, structural, or highway maintenance and repair services;

(3) Transportation of executives, engineers, technicians, and workers to and from, or within, such of the following as are essential to the war effort: power generation or transmission facilities, transportation or communication facilities, or agricultural, extractive, industrial, military or naval establishments;

(4) Transportation on official business of Federal, State, or local government employees engaged in the performance of government functions essential to the public health, safety, or the war effort;

(5) Transportation of produce and supplies to and from the farm if an applicant operating such farm does not own or possess a truck or other practicable means of transportation;

(6) Transportation of traveling salesmen who are engaged in the sale of farm, extractive, or industrial equipment, foods or medical supplies, the distribution of which is essential to the war effort;

(7) Transportation of newspapers for wholesale delivery: *Provided*, That a passenger automobile to be eligible under this paragraph must be used exclusively for one or more of the purposes in this subsection (*a*);

(*b*) Trucks used for any important purpose not included in List A.

Tires Last Longer When Used in Cool Weather

Rubber Research Shows Relationship Between Tread Wear and Temperature

CLEVELAND, Feb. 16.—Oil marketers can reassure car owners that normal and necessary driving this winter will have relatively very little effect on the wear of the tread left in their tires—whether that amount of tread is much or little. This is because tire wear is greatly reduced at low temperatures.

Marketers can further help their customers in conserving the mileage left in their tires, by explaining to them the importance of taking the outside temperature into consideration in planning their driving this coming spring and summer. Driving done in the cooler temperature in summer will be much easier on tire wear than that done at high temperatures.

Tests made by the major rubber companies and other agencies show that the rate of tread wear at 40 degrees Fahr. is only one-fifth the rate of wear when the atmosphere is 100 degrees, as is sometimes experienced in summer. Tread wear at prevailing winter temperatures in most states is less than half tread wear at 70 degrees, which is low temperature for some summer months. See the Tire Mileage Expectancy Thermometer on this page.

Tire Expectancy Cited

With ordinary driving in winter, tread expectancy for the ordinary tire is 62,500 miles. When driving is done at 50 degrees, the rate of tread wear is on a mileage expectancy of over 40,000 miles. If, on the other side of the picture, all driving were done at 100 degrees—which is not too uncommon in summer — the mileage expectancy would drop to 12,500 miles.

It must be borne in mind that these expectancies are based on the "average driver" —the fellow who in the past got about 25,000 miles from a set of tires by driving in all kinds of weather, summer and winter; not carelessly nor too carefully . . just average. However, for autoists who are now exceptionally careful drivers—who don't drive fast, stop fast, or start fast — these mileage figures would all be larger. For instance, the driver who normally gets around 35,000 miles from a set of tires could reasonably expect to get over 55,000 miles from tires operated in a 50-degree temperature.

The scientific explanation for this effect of temperature on tread wear is the fact that the further tread rubber gets from its melting point the harder it becomes. In that respect tread rubber is like butter, which when it first comes from the refrigerator tends to resist even a knife blade but when warm becomes very soft. Rubber too becomes soft as it gets hot, so soft in fact that one tire company reports its first-line tires are only good for 4000 to 7600 miles in the tropics.

Information is not available on the mileage expectancy of tires operating in zero to 30 degree temperatures but Akron rubber authorities express the belief that the mileages would be even higher than those obtained were tires driven at 40 degrees.

One rubber company official stated, "Temperature is the greatest single factor in tire mileage expectancy." Other rubber officials concurred in this. Though estimates varied slightly on mileages, three companies all agreed that tires would go five times as far at 40 degrees as they would at 100 degrees.

Temperature Factor Cited

That temperatures have such control over tire mileages may be more easily understood if drivers are reminded that pavement temperatures in the summer run considerably higher—from 20 to 30 degrees—than the atmosphere temperature. One company points out: "Road temperatures get from 20 to 30 degrees hotter than atmospheric. It's not unusual to see melted tar on the highway in summer—but tar melts at 130 degrees! Only about 50% as much mileage can be expected in all summer driving as compared to all winter driving."

Another major tire company in a booklet says: "Many people know that tires wear more rapidly when hot than when cold, but few people realize how much of a factor temperature is. The fact of the matter is that at 90 degrees a tire will wear twice as rapidly as at 60 degrees fahrenheit" . . . And further . . . ". . . tires put on late in the Fall or early winter, by Spring will show very little, if any, tread wear, —not only because the low temperatures preserve the tread rubber but also because the water and snow act as a lubricant to still further reduce the rate of wear."

Another major tire company told of a graph which charted the average mileages of all the buses in a large city. This chart showed that mileages decreased as temperatures increased, reaching the lowest mileage point in June, July, and August and hitting peaks in January, February, March, and April.

The answer does not lie in "putting up your car for the summer" because tires deteriorate just standing still. They must be driven if life is to stay in them. The best way to make the temperatures "work for you" is to "time" driving so that even in summer months you approximate —as closely as you can—winter and spring driving conditions. If you know you are going to have to make a trip the second week in July, don't decide in advance to make it on a certain day but instead be ready to leave the FIRST RAINY day in that week. When the pavements are damp, tire heat stays lower. Motorists can further help defeat summer heat by driving slowly on hot days, and, as much as possible, by doing their driving in the cooler hours.

Oil marketers will be doing a real service for their customers by explaining to them what a tremendous factor temperature is in determining mileage expectancy and by urging and helping them to make this temperature factor work FOR them and not against them.

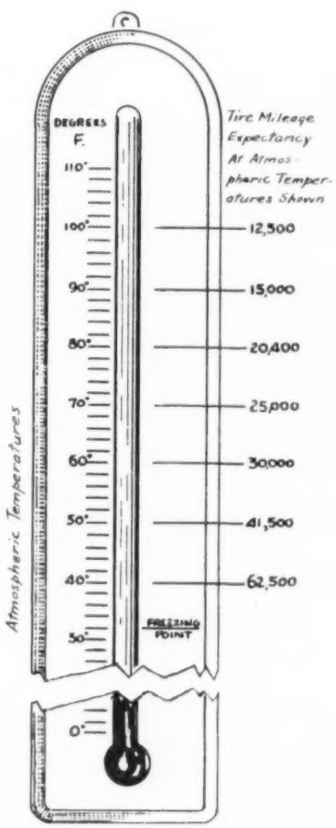
How Cold Weather Driving Increases Tire Life . . .

The accompanying Tire Mileage Expectancy Thermometer, prepared by NPN from data supplied by the research departments of the principal rubber companies, shows graphically how tire mileage is extended with the proportion of driving that is done at low temperatures.

If all of a motorist's driving were at around 40 degrees atmospheric temperature, it is shown that normal mileage expectancy would be 62,500 miles from a set of tires. Tires will last 5 times longer when driven at 40 degrees outside temperature than at 100 degrees, which is not an excessive temperature on summer days in some areas. The rate of tread wear when driving is done at under 40 degrees is even less, but exact data on rate of wear at these lower temperatures is not available.

These mileage expectancies at various temperatures were based on past average driving habits of motorists. With the greater care being taken in all driving today, the normal expectancy for tires driven at 40 degrees might be as high as 100,000 miles, rubber company authorities believe.

Oil marketers can be of service to motorists in the tire rationing period by showing them, from the Tire Mileage Expectancy Thermometer, how little tread wear will result from their continuing their normal, necessary driving through the cold weather. The thermometer demonstrates to drivers the general importance of arranging to do as much of their driving as possible at low temperatures, in all seasons.



WITH THE ASSOCIATIONS

Missouri Jobbers Map Fight To Save Independents in War

(See pictures on pages 2 and 56)

By NPN Staff Writer

JEFFERSON CITY, Mo., Feb. 16.—If there are any playboys in the Missouri Independent Oil Mens Assn., they did very little playing at the fifth annual convention held here last week.

For the 150 members attending got down to serious business early the first day, and went back to their various communities resolved to do whatever is necessary to stay in business. They further expressed the sentiment that things looked tough, but that they would accept no defeat on any of their objectives without making the strongest fight ever made in Missouri.

One of these objectives, on which a resolution is being prepared to send to the proper officials, is that a ceiling of 6c a gal. be placed on the refinery market price of gasoline; a ceiling of 8½c on tank wagon prices, exclusive of tax, freight and inspection of 8½c.

In discussing this resolution, it was pointed out that this will permit eventual straightening out of abnormal marketing conditions in many sections of the state without going through the present red tape necessary to make strictly community price changes. In the lobbies and around the convention, frequent caustic criticism of the Leon Henderson price freezing order was heard.

Ask "Squeeze Play" Probe

A resolution is being prepared by the association to send to the Justice Department, asking complete investigation of a "squeeze play", in which, last spring, refinery gasoline prices were advanced 1⅝c while tank wagon prices went up only 1c.

Sentiment of the jobbers is highly in favor of the resolution adopted January 7th, 1942, in St. Louis by the members of the state executive council in which the Petroleum Co-ordinator was petitioned to designate the Independent marketer as the official supplier of petroleum products for civilian needs of the country.

A resolution is being prepared to send to the proper officials in Washington urging that the necessary steps be taken to bring about 7 to 7 closing of stations in order to conserve electricity and manpower.

Opening the first day's program, Association President Vincent J. Smith of Smith-Turner Oil Co., South St. Joseph, stated that what happened yesterday, or a week ago, so far as an Independent jobber is concerned, is out. "Jobbers must not only look to the future, but also be prepared to fight some tough battles. If we don't hang together now, we will hang separately," he stated.

On Guard for the Jobber

Mr. Smith said that the only reason for the existence of an oil jobbing association was to look to the interest of the jobbers, which was the prime factor of M.I.O.J.A. or any other association.

Reports by Secretary Hadlick and Treasurer Brown indicated that the association is making a steady growth; that the association has the largest membership in his history, and that some money is left in the till for future activities.

First speaker on the program was Hon. James A. Potter, Missouri state tire rationing chief. His talk covered general functioning of tire rationing boards. Mr. Potter was asked a number of questions regarding the program. The gist of the answers was "if it is not in the regulations, you can't get them."

One interesting question was brought out by 2 different jobbers who had bought new trucks with tires of a size that would cause them to blow out in the next 60 or 90 days. But their rationing boards had refused to let them make a change. According to Mr. Potter, that is the regulation, and until such time as it is changed nothing can be done.

Mr. Potter was followed by Hon. George Metzger, State Inspector of Oils, who told of some of the provisions of the state law, and penalties for failure to get reports in promptly. He told of the users tax regulations pertaining to fuel oil, butane and other petroleum products, as covered in Missouri House Bill No. 516, copies of which are available upon request.

George L. Gray, of the National Highway Users Conference, Washington, gave an address on the conference and its purposes. Mr. Gray explained that his was a fact finding, investigating, co-operative and legislative organization. Mr. Gray stated that now was certainly no time to increase state taxes on anyone to try to make up for possible decreased revenue. He suggested that steps be taken to call attention of officials to storage in warehouses, doing no good, and perhaps rotting.

Phil R. Clarkson, Supervising Inspector of the Wage and Hour division, gave a talk on the working of that division as it affects oil jobbers. Mr. Clarkson stated that 6000 inspections of wage and salary records are being made monthly by the division.

He strongly recommended that jobbers who were not doing so, start requiring their employes to fill in a form, in their own handwriting, showing time of arrival, departure and time out. He pointed out that an employe is given the right to sue for double the amount, plus court costs and reasonable attorney's fees; that jobbers would possibly be out of luck if they did not have such a record available.

A. J. Snedeker, Field Supervisor of the Interstate Commerce commission, gave a talk on the provisions of the act, pertaining to truck transporting.

Warren C. Platt, Editor and publisher of NATIONAL PETROLEUM NEWS, gave an address on the jobbers place in the picture. Mr. Platt told of the national situation, particularly in Washington. "Now that Washington has some good business men, the future should be better for oil jobbers who may have been stymied in the past by dealing with professional politicians," Mr. Platt stated.

A banquet, followed by entertainment, rounded out Missouri's most successful convention.

* * *

War Periods Spanned by Oil Career Of Missouri Jobbers' New President

By NPN Staff Writer

KIRKSVILLE, Mo., Feb. 16—Joe A. Salter, the new President of Missouri Independent Oil Jobbers Association until 1918 was a railroader in Missouri and Illinois. As a conductor, as he expressed it, he got tired of going all the time and ending up at the same place.

So he quit and got a job with the Standard Oil Co. of Ind. in 1918 as salesman and later became local manager of that company's operations in Kirksville.

In 1928 he started his own jobbing business, and, as he explains, has been getting plenty of rides ever since. But he has built up one of the most successful jobbing business operations in Northeastern Missouri.

He has long been active in association work. His associates point to him as a typical, hardworking, conscientious Missouri jobber.

Mr. Salter is a member of the Kirksville Kiwanis Club, an officer of the Chamber of Commerce. He is a deacon in the Presbyterian church, and is active in all kinds of local civic affairs.

He was born 55 years ago in Illinois, is married and has one 23 year old son.

Aside from collecting old copies of NATIONAL PETROLEUM NEWS (he has an unbroken file for over 12 years back) Mr. Salter has no hobbies, other than his 260 acre farm near Kirksville.

But Mrs. Salter is a button collector. She has a collection of many thousand buttons of every kind, some as old as the country itself, and from many parts of the world.

The Salter Oil Co. distributes National Refining Co. products in Northeastern Missouri; is large distributor of solvents and naphtha; operates an independent transport line, transporting gasoline from Coffeyville, Kansas.

Iowa Jobbers List Dr. Frey, Batzell On Their Program

Special to NPN

MANCHESTER, Iowa, Feb. 16.—A large attendance is forecast for the 5th annual convention of the Iowa Independent Oil Jobbers' Assn., Inc., according to A. C. Gienapp, association secretary. The convention is scheduled for Des Moines on Feb. 25, 26, 27 at Hotel Ft. Des Moines.

Mr. Gienapp reports that all speeches will be heard on Feb. 26 so that many oil men, who can attend only one day, will be able to hear the speakers which include two officials from Office of Petroleum Co-ordinator—Dr. John W. Frey, marketing director and Elmer E. Batzell, legal division.

First session of the convention will begin at 9 a.m., Feb. 25, with registration and association business meetings, including the election of officers and directors.

February 26 session will be opened at 10 a.m. by Leland L. Harms, association president. Tentative list of speakers and subjects follow:

Major Oliver P. Bennett, Des Moines, Iowa Selective Service, "We are in the Army Now"; G. D. Lloyd, Des Moines, Secretary of Iowa Petroleum Industries Committee, "Tax Rationing and Tax Priorities"; Dr. John W. Frey, Washington, Director of Marketing, Office of Petroleum Coordinator, "Petroleum Marketing and the War Effort"; E. J. Gallmeyer, Fort Wayne, Ind., Wayne Pump Co., "Men of Spirit Make the Times Serve Them" and Elmer E. Batzell, Washington, Legal Division, Office of Petroleum Coordinator, "Clarifications on Orders from Washington". A banquet and entertainment will follow speakers' day at the convention.

The final day of the convention will be devoted to business reports, resolutions and other association matters.

Frey Scheduled to Talk At 4 Oil Meetings

NPN News Bureau

WASHINGTON, Feb. 16.—Dr. John W. Frey, Office of Petroleum Co-ordinator's Marketing Director is scheduled to speak at following meetings, it was learned here today:

Iowa Independent Oil Jobbers' Assn., Des Moines, Feb. 26; Indiana Independent Petroleum Assn., Indianapolis, March 4; Illinois Petroleum Marketers Assn., Peoria, March 11; Wisconsin Petroleum Assn., Milwaukee, exact date not set, but either March 18, 19, or 20.

Defense Officials To Speak At Kansas Oil Men's Meeting

WICHITA, Kans., Feb. 16.—Kansas oil men will get an opportunity to talk with defense officials, and representative of state motor fuel tax division at a Jobber's Clinic to be held during the convention of Kansas Oil Men's Assn., Feb. 23, 24, Broadview Hotel, Wichita.

Joseph H. Salmon, Office of Price Administration Petroleum Unit Chief, and Jonathan Richards, OPA price executive in Kansas City, Kans., will address the convention. Warren C. Platt, editor of NATIONAL PETROLEUM NEWS, will speak on "Problems of the Independent Jobber" and war conditions.

AIME Elects Stolz to Head Petroleum Division

NEW YORK, Feb. 16. — Lt. Comdr. Harry P. Stolz, Los Angeles, was elected head of Petroleum Division of American Institute of Mining and Metallurgical Engineers at last week's annual meeting here.

Because he is in the service, Stolz wished to resign, but Executive Committee adopted resolution that it was their unanimous decision that he carry on with their assistance.

His term extends 1 year.

1942 Mid-Year Meeting Cancelled by A.P.I.

NPN News Bureau

NEW YORK, Feb. 14. — Twelfth Mid-Year Meeting of American Petroleum Institute, scheduled for May 25 to 28 at Oklahoma City, Okla., has been cancelled, W. R. Boyd, Jr., A.P.I. president, announces.

"This action has been taken by the Institute's Executive Commtitee upon my recommendation," Mr. Boyd said, "because so many of the members of the Institute, and especially of its working committees, who normally attend mid-year meetings, are actively engaged in war work."

S.A.E. To Discuss Maintenance

NPN News Bureau

NEW YORK, Feb. 16—Problems on automotive maintenance will be discussed at the meeting of the Metropolitan Section, Society of Automotive Engineers to be held at Park Central Hotel here on Feb. 19.

Kentucky Meeting Discusses War's Effects on Marketing

Special to NPN

LOUISVILLE, Ky., Feb. 14.—War problems of the oil marketer highlighted the program, discussions and resolutions adopted at the 16th annual convention here Feb. 10-11 of Kentucky Petroleum Marketers Assn.

A ban on retail sales of motor fuels and lubricants from 7 p.m. to 7 a.m. daily was among the proposals in resolutions adopted by the Kentucky group. Other resolutions urged that marketers do all they could to expand activities of their retailers so that avenues to profit could be opened up to offset tire rationing.

On tires, Kentucky marketers proposed that their association take steps to acquaint the motoring public with the longevity of today's tires, thus reducing any tendency to panic among motorists. Also, tire rationing authorities at Washington were urged to consider that there are in stock many thousands of cheaper grades of tires, unsuited for military purposes, which will deteriorate with age and that they should be utilized before they become unserviceable.

Bakhaus Elected President

Convention elevated to the presidency O. A. Bakhaus, Lexington, Ky., of Kentucky Independent Oil Co., who had served the past year as first vice-president. Don Raibourn, Bloomfield, Ky., of Regal Petroleum Co., was advanced from second to first vice-president. John W. Newbolt, Louisville, of Superior Petroleum Co., retiring director was elected second vice-president. Directors elected for three years were: C. E. Bauer, of Continental Oil Co., a Louisville jobbing company, who had served as president during the past year; Phil T. Williams, Inc., Indianapolis, of Gaseteria, Inc.; and J. B. Hutchinson, Louisville, of Aetna Oil Co.

Discuss Priorities

Opening day's speakers were W. C. Platt, Cleveland, editor-publisher of NATIONAL PETROLEUM NEWS, and J. T. Howington, government priorities official.

Mr. Platt spoke on the oil marketer's problems as accentuated by the United States entering the war. He predicted that a shortage of transportation facilities, due to tanker sinkings and diversion to war service, would bring rationing of petroleum products in some sections before long.

Mr. Howington explained the basic principles of how the priorities system operates, telling also how shortages of critical materials were affecting normal operations of the oil indus-

To Lead Kentucky Oil Marketers in 1942

These Kentucky jobbers have long been prominent in affairs of the Kentucky Petroleum Marketers Assn. Left to right, C. E. Bauer, Louisville; O. A. Bakhaus, Lexington, new K.P.M.A. president; and Dan Raibourn, Bloomfield

Capt. A. A. Nichoson

try and steps being taken to offset some of these.

Order reducing tinplate and terneplate for oil can use was cited by Mr. Howington as an example.

"That certainly means," he added, "that we shall have less oil packed in quart cans, and more in big drums as we did a few years ago. If the curtailment is continued steadily, a substantial saving of tin will result since 275 tons of tin went into the tinplate used in cans for oil products in 1941."

He called attention to Petroleum Co-ordinator Ickes three-point recommendation for (1) conserving containers themselves and (2) providing for standardization of container sizes and specifications, and (3) substituting glass containers for dispensing at stations and wooden barrels for greases.

"The United States is arming itself mainly to defend the American Way of Life," said Captain A. A. Nichoson, World War veteran and assistant to the vice-president of The Texas Co.

"Almost overnight the workshops of America have been turned into a mighty arsenal," said Mr. Nichoson. "The world's greatest productive system, traditionally devoted to providing the goods that have given us the world's highest standard of peacetime living, has now shifted to the production of planes, tanks, ships, and guns. The pressing needs of a defense economy are reshaping the lives of all Americans.

"America is arming itself—not for aggression, not for conquest—but for *defense*. Defense of what? Of Pennsylvania's busy industries, yes; but more to defend the right of a Pennsylvanian to worship as he pleases. Of Iowa's fertile cornfields, yes; but more to defend the right of an Iowa editor to publish a newspaper without censorship. Of California's sunlit orchards, yes; but more to defend the right of Californian to vote as he sees fit. In short, we are arming to defend the American way of life.

"We Americans of today have inherited from our country's founders and builders a scheme of living, a civilization based on freedom, which is more precious to true patriots than life itself. This heritage is a way of life in which the government exists for the individual, not the individual for the government. It is a way of life in which hope and opportunity inspire the individual, not one in which individuality is crushed by fear and coercion. It is a way of life voluntarily followed by the people, not one imposed upon them by an all-powerful dictator."

FBI Warns Against Sabotage

H. K. Moss, FBI special agent, gave a talk stressing the importance of proper protection for vital oil storage and plant facilities. He urged that oil men be alert to any movement or happening of a suspicious character and seek the co-operation of local citizens in this regard. He asked that all citizens report promptly even a seemingly inconsequential act that was suspicious as it might fit into a pattern of dangerous sabotage activity elsewhere in the U. S.

Substituting for J. J. Newman, vice-president of the B. F. Goodrich Co., Akron, J. A. Hoban read a paper on the rubber situation. Like the paper Mr. Newman delivered at Boston on Jan. 29 (See NPN, Feb. 4, Page 10—Ed.), emphasis was placed on need for conserving tires, for salvaging scrap rubber and for prompt, all-out development of synthetic rubber program.

Approximately 150 oil men were registered for the K.P.M.A. convention.

* * *

For the War's Duration:

Let Only Stations Sell 'Gas' and Oil, Stop Tank Wagon Sales to Consumer

—Says Virginia Oil Man

NPN News Bureau

CLEVELAND, Feb. 16—Limiting tank wagon deliveries of gasoline and oil to service stations only—and eliminating such deliveries to "backyard tanks" and commercial consumers—is suggested as a war measure by Edgar M. Shaner, independent marketer of Lynchburg, Va., in a letter to NPN.

Mr. Shaner, who trades as Shaner's, Inc., 413-419 Main St., Lynchburg, has been operating service stations since 1923. He owns 4 stations which he has leased to a major company, and he operates a fifth station.

"I have a plan to suggest," writes Mr. Shaner. "It is that the government ask or insist that during this emergency wholesale distributors of 'gas' and oil make no deliveries to anyone other than authorized filling stations and to stop selling privately-owned tanks in the homes and all such accounts where wholesale firms have one or more trucks.

"These individuals and firms pay no rent or taxes and they let their employes have gasoline and oil from their supply at cost.

Consumers Buy Cheaper

"Filling station operators try to get this business and these individuals and firms with tanks in their backyards say, 'Nothing doing, we can get gasoline cheaper than you can buy it'. That is certainly true.

"We operators pay the major oil companies rent while these firms and individuals pay no rent.

"I believe that most wholesale 'gas' and oil companies would welcome any plan that would keep the hundreds of thousands of filling stations in business. Won't you help us put this business where it rightfully belongs—in the filling station. It would help our business and if ever we needed help it is now.

"This, too, would conserve time and labor for the major oil companies as they now chase all over town making deliveries in backyards and other privately-owned tanks," Mr. Shaner added.

C. E. Bauer (left), Louisville jobber and retiring K.P.M.A. president, "talks it over" with NPN Editor Platt

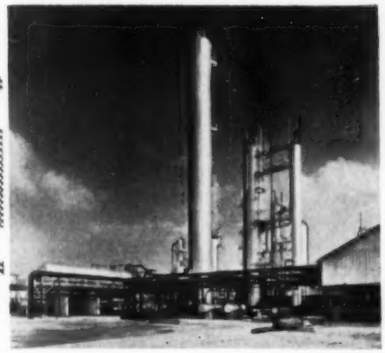
Put Jobbers on PIWC, Kentuckians Urge

Special to NPN

LOUISVILLE, Ky., Feb. 14.—Jobbers' division of Kentucky Petroleum Marketers Assn., meeting at the K.P.M.A. convention here this week, re-elected its executive committee for another year. Chairman is Dudley Burke, Lexington, of Kentucky Independent Oil Co. Other members include: Sewell C. Harlin, Glasgow, Ky., of Central Oil Co.; Dan Raibourn, Bloomfield, of Regal Petroleum Co.; L. J. Connolly, Continental Oil Co. of Louisville; Fred Stokes, Hickman, Ky., of Newton Oil Co.

More adequate representation for jobbers of the U. S. was demanded in a resolution adopted by the Kentucky jobbers' group, with additional membership sought on the Petroleum Industry War Council and its executive committee and also on District 2 Marketing Committee under the Office of Petroleum Co-ordinator.

REFINING NEWS



Shortage of Natural Gasoline Lies Ahead, But Prices Drop 2c in Less than a Month

NPN News Bureau

TULSA, Feb. 16—Once again natural gasoline manufacturers have had evidence that prices for their product are as volatile as the product itself.

That the old law of supply and demand is still on nature's statute books was demonstrated again as natural gasoline prices today reached 2.5c per gallon, f.o.b. Breckenridge. High for the current season was 4.75c which was reached early in October and remained there until several weeks ago.

However, any joy that refiners or other buyers might have at such low prices for natural gasoline is tinged with the prospect that soon—within the next few months—supplies of "natural" will dwindle as the government presses its 100-octane and synthetic programs. Both of these war-essential products will draw heavily on "naturals".

Prices Hit Toboggan

Price of natural gasoline has always been the most sensitive of that for any petroleum product. Fluctuations of 100%, up or down , within a single year have occurred a number of times. And the past year was no exception.

Until March 1, 1941, the price for 26-70 grade, f.o.b. Breckenridge, was steady at 2c. With advent of Lend-Lease buying and increased defense demands, there began a counter-seasonal increase in price continuing through the summer months until it reached 3.875c in the early fall when blending starts. Government and Lend-Lease buying continued, with domestic demand rising abnormally. At same time, less "natural" was available and stocks were low. Supply-and-demand factor pushed prices to 4.75c on Oct. 8, 1941. Buyers' takings were prorated. After Pearl Harbor, with a heavy call for refined gasoline indicated, prices remained at 4.75c until Jan. 22, 1942.

Buying Slump Catches Up

However, during January Lend-Lease buying slackened, many tankers were diverted to the Pacific and others sunk. This hamstrung transportation from the Gulf to the East Coast. Buyers couldn't move their purchases. Gulf Coast refiners stopped buying natural gasoline. Stocks of "natural" began piling up in manufacturers' storage. And prices began to slide until today the Breckenridge quotation was 2.5c.

'Natural' Tank Car Situation

Transportation, as far as natural gasoline is concerned, is not short today, but natural gasoline sellers today do not possess the surplus insulated cars they had 18 months ago, they say. It is said when the price of natural was comparatively low during Feb. 1940, many sellers made arrangements with refiners to put natural gasoline into crude pipelines.

A large part of the natural gasoline formerly sold on the tank car market was thus diverted. Faced with surplus tank cars, the natural sellers then transferred them to refinery use, since increased demand for refined gasoline made the switch desirable. With rail shipment to East Coast now increasing to compensate for tanker diversion to Navy and West Coast service, both refiners and natural gasoline sellers face an ultimate shortage of insulated natural gasoline tank cars. Some refiners are reportedly facing this now.

On the other hand, tank cars for hauling liquefied petroleum gases—propane, butane and propane-butane mixtures—are scarce. Bottles for these gases are also scarce, LPG-sellers declare. One seller said some bottles could be had but fittings are not available. Neither additional fittings nor bottles can be purchased, he added, because of government limitation order prohibiting expansion of marketing facilities (Conservation Order M-68-C).

Butane is transported in type 104-A cars with working pressure of 75 lbs. per sq. in., while propane cars are of type 105A-300 or 105A-300W with working pressure of 300 lbs. per sq. in. Experimental work now being done by Bureau of Explosives of American Association of Railroads on types ICC-104 and ARA-IV (insulated natural gasoline cars) indicates so far that some conversion is possible to permit shipment of normal butane but not isobutane, propane or butane-propane mixtures, because of the higher working pressure required.

Indicated method of converting insulated natural gasoline cars to butane service is by welding shut the bottom outlet valve and putting on the special butane-type dome covers, one natural gasoline manufacturer said, at a conversion cost of approximately $1200 per car taking about 30 days to complete.

Supplies To Decrease

Beginning shortly, there will be a gradual decrease in supplies of natural gasoline available for refinery use. The 100-octane program will require fractionation of natural gasoline for butane and pentane; synthetic rubber program will also require butane (in the form of butadiene).

Refiners who have been using butylenes and other refinery gases to impart volatility to their finished gasolines will find these gases also "drafted" for the same programs.

Stripping of crudes for aviation gasoline base stocks cuts will leave refiners with a large residue of low-octane material which will require natural gasoline to increase vapor pressure, octane number and lead-susceptibility in order to meet Lend-Lease and other specifications. As a result more natural gasoline will be needed while less will be available to supply the demand.

'Stripped' Naturals Available

But natural gasoline manufacturers point out that not all natural will go into 100-octane fuel and synthetic rubber. Natural gasoline from which butane, isobutane, and isopentane have been removed will still be available although it will possess a lesser degree of volatility and lower octane number.

"Bottled gas" users—there are said to be 2,000,000 absolutely dependent on liquefied petroleum gases—also will be inconvenienced by the 100-octane program. Less butane supplies will be available for these users. While supplies of propane will increase from fractionation of natural, manufacturers point out that the much greater vapor pressure (175 lbs. per sq. in. at 100° F.) will prevent its use in most equipment designed for butane or butane-propane mixtures.

OPA Lists Red, Pale Oils As 'Stock Oils'

WASHINGTON, Feb. 16. — Red and pale oils when used as blending stocks for motor oils are included in "stock oils" mentioned in Office of Price Administration's Price Schedule No. 88, an OPA official told NPN. When red and pale oils are used in blending industrial oils, they are also included, but are excluded in the resultant products, this official added.

Motor Cars After the War To Use 100-Octane—Gary

NPN News Bureau

NEW YORK, Feb. 16.—American refineries will supply most of the world demand for high-octane gasolines after the war when planes—and even motor cars—will be using 100-octane gasoline, Wright W. Gary, Refining Director for Office of Petroleum Co-ordinator, said in a speech prepared for delivery before the annual meeting of the American Institute of Mining and Metallurgical Engineers here last week.

Declaring that "we are looking toward fuels better than 100-octane," Mr. Gary said:

"Crude petroleum supply for future years is definitely limited and fuel consumption must be minimized. This can be accomplished by the use of higher octane fuels of the 100-octane type in motor cars designed for such fuel. It is a known fact that several motor manufacturers are working on new designs to use this material. . . .

"A large number of planes will be available after the war and plane plants will be in a position to produce after the war. So it is logical to assume that world wide air freight and passenger travel will be conducted upon a scale which will demand large volumes of this fuel.

"Due to technique geographic considerations and construction ability nearly all 100-octane production will be located in the United States after the war. The world supply most logically will come from American plants now being built for our war effort. . . .

"The economics of aviation gasoline manufacture vary to a considerable degree." This variation is caused by 2 main factors namely size of plant and processes used.

"In order" he continued "to get a large volume of output in any given plant a refinery must have a crude thruput which is substantial in volume. Great effort has been exerted to increase aviation percentage yield per barrels of crude so that smaller refiners can contribute to the war effort and produce this urgently needed material.

"Exhaustive studies have involved collection of refinery gases, consolidation of polymer gasolines from various small refiners to a central plant and delivery of other charging stocks, reduced crude to a central catalytic cracker and alkylation plant.

"From these various studies, economics would indicate that the central catalytic cracking unit has several advantages, namely, (1) lower capital investment per barrel of 100-octane produced, (2) lower operating costs, and (3) greater incremental output per barrel of crude.

"Plants of this design can produce in a single unit volumes of aviation fuel in excess of 10,000 bbls. per day, thereby minimizing construction materials, and will provide for such refiners an economical plant which in the future, after the war, will be competitive and justified."

The increase in production of 100-octane has meant inter-refinery exchanges, refinery operational changes and greater denuding of motor gasoline to provide greater amounts of raw materials, he said.

Although processes may vary from locality to locality, they may be grouped, Mr. Gary said, in these broad classes:

"1. Alkylation of refinery butylenes with isobutane, fractionation for isopentane and fractionation for straight run base stock.

"2. Catalytic cracking for the production of butylenes, isopentane, isobutane and catalytic cracked base stock, and alkylation of the butylenes and isobutane.

"3. Dehydrogenation of butanes to produce butylene, alkylation of isobutane and butylene, and fractionation of straight run base stock."

Army to Insist on 80-Octane On Its TPD Contract Buying

WASHINGTON, Feb. 16.—Oil companies contracting to supply premium gasoline under Treasury Procurement Division bids will have to furnish minimum 80 octane.

This is the stand taken by the War Department, according to a procurement division official, who said the Army expects to pick up this grade under TPD contracts wherever in the U. S. it may have to refuel.

Companies holding TPD contracts to supply regular grade, however, can furnish minimum 70 octane instead of 72 octane, as previously (*NPN Jan. 28, p. 20.*)

Negotiations are now under way with the Army and Navy to get a similar reduction in octane of regular grade furnished for tactical maneuvers, according to oil industry sources.

Procurement division officials are waiting until after bids have been received for the quarter beginning April 1 to determine what course of action to alleviate what now looks like a tremendous problem in getting 80 octane.

Shortage of tetraethyl lead caused Ethyl Gasoline Corp. to authorize a reduction from minimum 80 to minimum 78 octane for premium grade sold under the Ethyl trademark. Many companies have made this reduction, according to reports.

With octane rating of premium grade reduced by many companies to 78, the problem arises of supplying military needs under TPD contracts with an 80 octane.

The higher octane cannot be carried in storage by the supplying company for sale only to the government, as handling costs would be too high oil men point out. On the other hand, if it is sold to the general public at the same time in order to minimize distribution and handling costs, the public might buy too much of the Ethyl grade.

May 'Mix It to Order'

One possible solution which was given publicity at the recent Society of Automotive Engineers' meeting in Detroit would be to mix "gasoline cocktails" for the army. This would mean carrying and selling a 78 octane premium grade to the public and adding a certain quantity of anti-knock fluid to the gasoline to bring it to minimum 80 octane when delivery is made under a procurement division contract.

As the situation now stands, however, the War Department is insisting on a minimum 80 octane for premium grade while many oil companies have made representations that they cannot supply it under present tightness of the tetraethyl lead situation.

OPA Permits Asphalt Hike

CLEVELAND, Feb. 14.—Office of Price Administration has issued Amendment No. 3 to Price Schedule 88. This amendment permits price increases for asphalt and asphalt products.

Specific prices set for paving and cut-back asphalts, asphalt emulsions, road oils, roofing asphalt and roofing flux follow: (*Complete text of order printed in OIL-Law-GRAM Feb. 12, p.175.*)

Maximum Prices for Roofing Flux F.O.B. Refinery	Price Per Ton
For refineries within 100 miles of the Atlantic coastline	$12.25
For refineries in Chicago, Illinois and within a 50 mile radius of the corporate limits of Chicago, Illinois	10.05
For refineries in Kansas City, Missouri and within a radius of 50 miles of the corporate limits of St. Louis, Missouri	8.25
For refineries in Ohio and within 50 miles south of the southern boundary of Ohio	11.75
For refineries in Kansas City, Missouri and within a radius of 50 miles of the corporate limits of Kansas City, Missouri	10.00
For refineries within 150 miles of the coastline of the Gulf of Mexico	11.10
For refineries in California, Washington, Oregon, Nevada, and Idaho on shipments to destinations in those states	7.25

For delivery to destinations other than in California, Washington, Oregon, Nevada and Idaho the maximum price for each refinery not located in the areas described above shall be not in excess of 75 cents per ton above the highest f.o.b. refinery price applicable to deliveries from such refinery to the given destination during January, 1941 on contracts effective during that month.

Roofing Asphalt.

The maximum prices for each seller of roofing asphalt shall be at no greater differential over the maximum prices determined above for roofing flux than the differentials which were in effect on January 1, 1941.

Paving Asphalt, Cut-back Asphalt, Asphalt Emulsions and Road Oils.

Maximum prices for paving asphalt, cut-back asphalt, asphalt emulsions and road oils for shipment to a given destination shall be no higher than the weighted average of the prices provided in the three contracts of sale (or sales if not preceded or accompanied by contracts of sale), governing the largest volume made between July 1, 1941 and October 15, 1941 for a product of like specifications and quality shipped to the same destination.

All-Rail Movement is Hope Of 'Drowning' Gulf Refiners

Special to NPN

HOUSTON, Feb. 17.—With some Gulf Coast refiners reporting they are "drowning in oil" because of lack of transportation facilities to move it, the transportation committee of Dist. 3, OPC, and its subcommittee on tank car traffic moved to make available for Gulf Coast-Eastern Seaboard routes every possible tank car.

Prompt loading and unloading of tank cars seven days a week and use of trucks, wherever possible, on short hauls within a radius of 25 miles were urged.

A survey made by the subcommittee, headed by Joseph P. Gudger, division traffic manager for Gulf Oil Corp., showed that about 275 tank cars might be released from movement of less than 25 miles radius if equipment and facilities were available for handling these movements by truck.

However, according to the report, there are some companies which do not have facilities for loading and unloading trucks. In addition, there are some rules and regulations in various states of Dist. 3 (Texas, New Mexico, Arkansas, Louisiana, Mississippi and Alabama) which restrict truck movements on certain days and at certain hours.

Meanwhile, the Gulf Coast Refiners Assn., in a memorandum to Harry C. Wiess, chairman of the transportation committee, appealed for quick help in tanker allocation.

Shutdown Is Alternative

The memorandum said that if tanker space is not provided G.C.R.A. members soon their storage will reach capacity and they may be forced to shut down their plants. The memorandum said further that association members are filling their storage while operating at 72% of rated capacity and asked that if it becomes necessary to reduce crude runs on the Gulf Coast, the reductions be equitable to all companies operating on the Coast.

During the week ended February 7, stocks of finished and unfinished gasoline on the Texas Gulf Coast rose 1,205,000 bbls. to total 18,361,000 bbls. This is an increase of 6,861,000 bbls. during the last two months, of which 600,000 barrels are stocks of independents and the remainder stocks of majors.

Independent refiners, with mounting stocks of fuel oils and gas oils, await anxiously the result of the request by the government of 15 big companies that they use clean bottom tankers to haul fuel oils from the Gulf Coast to the East Coast. Members of G.C.R.A. have 1,000,000 bbls. of fuel oil stocks and 2,000,000 bbls. of Diesel gas oil and other gas oil stocks.

Refiners here also watched for developments on the move backed by Gov. John Miles of New Mexico for a 900-mile 12-inch pipe line, to be built in six months at a cost of $15,000,000, from West Texas and New Mexico to Los Angeles and San Diego, Calif. Those favoring the plan claim the line would release tankers taken from the Gulf Coast and put into the West Coast service, so they could be re-allocated to the Gulf Coast. Such a line it is claimed, also would relieve coastal storage, since much of the oil from West Texas and New Mexico moves through the Gulf Coast.

It was understood the plan has not yet been submitted to the transportation committee of Dist. 3, in which the line would originate.

The committee's resolution on use of tank cars in Dist. 3 follows:

"Whereas, there is a shortage of transportation facilities to move crude and products to the East Coast; and

"Whereas, the demand for tank cars by companies desiring to ship crude and products by rail into the East Coast already exceeds the number of cars at present available; now

"Therefore be it resolved that shippers and consignees in District No. 3 handling crude petroleum and its products by tank cars utilize this equipment with the maximum efficiency in order to release cars which may be used to help relieve the transportation shortage. To this end, shippers and consignees are requested to load and unload tank cars as promptly as possible and to operate seven days a week; and

"Be it resolved further that in order to release additional tank cars all movements up to a radius of twenty-five miles should be taken over by trucks, provided the equipment and facilities are available. If additional truck facilities are available, tank car movements up to distances beyond twenty-five miles radius should be eliminated; and

"Be it resolved further that the Tank Car and Truck Subcommittee of District No. 3 is authorized and instructed to see that the recommendations herein are carried out to the maximum extent possible."

Independent Refiner's Plea:

'Let Me Keep My Tank Cars And I'll Ship to the East'

TULSA, Feb. 16. — With Southwestern refiners circularized by District 3 tank car subcommittee to see if any tank cars can be released by substituting tank trucks for short hauls, an independent Texas refiner, offering to ship from 600 to 800 cars of 72-74 octane gasoline at 5c gal., f.o.b. his refinery, to East Coast, has taken the position that Government should take his gasoline if they take his tank cars.

He believes that he should be allowed to sell the gasoline on the East Coast instead of releasing his tank cars for a major company to use in moving its own gasoline to the East where another shortage looms.

He made the offer "in order to co-operate with Office of Petroleum Co-ordinator to relieve the shortage and to keep tank cars busy at a time of year when they are usually idle."

He said he has been asked to release his tank cars, but believes that small companies should be allowed to keep their cars, shipping their own gasoline to areas of demand determined by war agencies.

Another Texas refiner said he has received a wire from District 3 sub-committee asking if he could release some of his tank cars by using tank trucks. Other refiners reported receipt of a similar wire, but still others were non-committal.

Reported text of the wire follows:

"Office of Petroleum Co-ordinator requires that we have at once following information from your company which please wire by noon Wednesday. First, are you loading and unloading tank cars on 7-day week basis at all your loading and unloading points. If not why and where. Second, by trucking petroleum products to all points within a 25-mi. radius of your shipping points in Texas assuming such points will be equipped for truck unloading how many tank cars could be released for other service. Your co-operation will be appreciated.

"(Signed) Joseph P. Gudger, Chairman Tank Car Traffic Sub-Committee, District No. 3, 805 Gulf Bldg., Houston, Tex."

Propose Pipeline From New Mexico To Pacific Coast

Special to NPN

SANTA FE, N. Mex., Feb. 14. — New Mexico's Governor Miles is backing a plan for a 900-mile, 12-inch crude oil pipeline expected to cost $15,000,000 to extend to the West Coast. He has named I. E. Lambert, Santa Fe attorney, to represent him in investigating feasibility of this project which is still in the "discussional" stage. Meetings with interested oil men will be held in Artesia, N. Mex. Feb. 17 and at Hobbs Feb. 18 to discuss the proposal, Lambert told NPN.

Pipeline would run from West Texas and Eastern New Mexico oil fields along the Missouri Pacific right-of-way to San Diego, with possibility of a spur being extended to Los Angeles, "to assure the Pacific Coast of sufficient petroleum supplies to prosecute the war against Japan," Lambert said.

Line would be "a wonderful thing for New Mexico and Arizona as well as Texas," Lambert said, pointing out New Mexico's principal outlet is Texas, which has been having trouble marketing its own oil because of tanker shortage. Line also might mean refineries for Arizona and New Mexico, he added, since the former state is now importing its oil by truck and rail.

New Mexico's intentions are to get interested states—Texas, New Mexico, and Arizona — solidly behind the plan and then lay it before Petroleum Co-ordinator Ickes for action. Enlistment of states' congressional delegations also is contemplated.

Stating that no specific builder was pushing the plan, Lambert said: "We are not promoting any company to build it. We don't care who builds it."

Ethyl Appoints

JULIAN J. FREY
(Left)

Director of Ethyl's new Technical Service Department and chairman of Ethyl's War Committee

•

JOHN CLIFFORD POPE
(Right)

Manager of Ethyl's Gasoline Testing Division. Mr. Pope was one of Ethyl's first technical employes.

Ethyl Combines Its Technical Divisions for War

William Hubner, head of Ethyl's Refining Technology Department

NPN News Bureau

NEW YORK, Feb. 16.—Ethyl Gasoline Corp. has streamlined its wartime services by centralizing all technical operations in a new department and creating a 6-man War Committee to adapt research facilities to America's war needs.

A new Technical Services Department combines under one head all of the company's technical services. Directing it, is Julian J. Frey, Detroit, head of the Technical Sales Division since 1930. He also is chairman of Ethyl's war committee.

"The Gasoline Testing Division," Ethyl announced, "will continue to provide sample inspection service for the company's customers, and to make periodical surveys of the quality of fuels marketed throughout the country. The Refinery Technology Division will broaden the scope of its services in aiding refiners to attain the most economic use of tetraethyl lead."

Mr. Frey was born in Baltimore, Md., in 1905 and was graduated from Lehigh University in 1927 with a degree of Bachelor of Science.

John Clifford Pope, manager of the Gasoline Testing Division, was one of Ethyl's first technical employees, joining the company in 1926 at the original Yonkers testing laboratories, and manager of Ethyl's Gasoline Testing Laboratories since 1938.

Heads of the other divisions in the Technical Service Department are: Refinery Technology, William H. Hubner; Bus and Truck, Errol J. Gay; Passenger Car and Automotive Accessories, Richard K. Scales; Agricultural, C. G. Krieger.

War Committee members, besides Chairman Frey, are: Earl Bartholomew, Dr. George Calingaert, Dr. Graham Edgar, S. D. Heron, Dr. O. E. Kurt.

Ethyl's wartime research problems will be handled by a committee composed of representatives of the manufacturing department and of aeronautical, engineering, and chemical research. The members of this committee are: Mr. Bartholomew, Dr. Harold A. Beatty, Dr. Calingaert, Dr. Edgar, C. D. Hawley, Mr. Heron, Dr. Kurt, John Lachowicz, M. W. Manchester, John Schaefer.

Members of War Committee Set Up by Ethyl Gasoline Corp.

Earl Bartholomew

Dr. Geo. Calingaert

Dr. Graham Edgar

S. D. Heron

Dr. O. E. Kurt

MILLIONS IN RUBBER WASTE CAN BE SAVED IN INDUSTRY!

LET THE G. T. M. HELP YOU MAKE YOUR MECHANICAL RUBBER EQUIPMENT LAST LONGER

IN American factories millions of dollars worth of industrial rubber goods fail prematurely every year due to improper inspection and unintentional abuse.

This waste must stop—now that America's rubber life line is under attack. Every pound of rubber must work to the limit for victory.

Today it is essential to take the utmost care of any rubber product you now have in operation or in stock—*because replacement may be difficult in the months ahead, even on priorities!*

That is where the G. T. M.—Goodyear Technical Man—can be of greater help and service to you than ever before. In the past his expert skill in the correct application and installation of rubber has been responsible for countless performance records in all branches of industry.

By consulting the G. T. M. today, by following his recommendations on the proper handling of belting, hose and other rubber products, you can increase their service life measurably at a time when any increase in their life is critical.

He will be glad to go over your installations, to make suggestions and give you tips that will enable you to obtain all the service built into your rubber equipment—to prevent waste of America's most precious war material.

This service costs you nothing. The G. T. M. will be glad to call at your plant—to give you the benefit of his specialized training.

To call in the G. T. M., write Goodyear, Akron, Ohio or Los Angeles, California—or phone the nearest Goodyear Mechanical Rubber Goods Distributor.

G.T.M.

Serving on the Industrial Front to guard America's rubber supply

GOODYEAR

MECHANICAL GOODS

From N P N's News Bureau at WASHINGTON

Let Eastman Ration Trucks, Highways Users Tell Nelson

Date for releasing light, medium and heavy trucks and truck trailers was advanced from Feb. 11 to Feb. 28 last week to allow completion of rationing plans which some sources felt would be given to Defense Transportation Director Joseph B. Eastman who has said publicly that he believes he should ration trucks and truck tires.

Nothing official has been said about Mr. Eastman being given such authority, but it was understood that conferences to that end have been held and some quarters said truck rationing appeared to be "coming Mr. Eastman's way."

Influential groups of highway users recently urged Mr. Eastman's appointment to War Production Board with "full powers to control all priorities, allocations and rationing affecting all motor vehicle transportation necessary in our united war effort."

As examples of America's "astonishing dependence" upon motor transportation, the highway groups pointed out in a statement to WPB Director Donald M. Nelson that:

Workers in defense industries use automobiles in getting to and from work and some plants are not adequately served by mass transportation facilities; 2,320 cities and towns with a population of 12,500,000 are without any form of local public transportation; 872 cities have only bus transportation; 48,000 communities are completely dependent upon highway transportation; 18,000 people employed in cities live in the country but not on farms; 32,400 rural mail carriers depend upon motor vehicles; freight movement to and from defense plants is being carried increasingly by highway; and there will be an increase of "millions of tons" of farm products moved by highway as a result of the greatly increased war-time agricultural program.

Although the stockpile of new trucks and truck trailers remains frozen, WPB said some of these trucks would be released.

Meantime, WPB sought to find out how many trucks are in storage by requiring manufacturers, dealers and finance companies to fill out forms.

In doing so, WPB changed the definition of trucks. Light trucks formerly were defined as those of less than 1½ tons while medium and heavy trucks were those having a maximum weight of 9000 lbs. or more. WPB said some trucks came within neither classification and that it would, therefore, be necessary to class light trucks as those of less than 9000 lbs.

Wilson-Eberle is New Team in OPC Transportation Set-Up

If it moves on land or water, Eberle & Wilson are a team in the Office of Petroleum Co-ordinator which can answer practically any question—and without hedging. They both regret exceedingly that wartime precautions make it necessary to "hold out" some information, but they're "in the know."

Both William C. Eberle and Boyd Wilson, are relatively new at OPC but they're men who understand transportation problems.

Mr. Eberle is chief of the marine section and Mr. Wilson is rail transportation chief. Between them, they have over 40 years of experience in their fields.

Prior to coming to OPC, Mr. Wilson was with the Pennsylvania Railroad where he spent 17 years, being stationed at from 20 to 25 different locations. His last position was assistant train master and division operator in the Columbus, Ohio, division.

From 1921-25, Mr. Wilson attended the University of Pennsylvania where he studied transportation with the accent on operations. This training combined with 17 years of practical railroad background gives one the impression that he knows how to handle his present problems, largest of which—at the moment—is conversion of tank cars. Mr. Wilson believes this conversion can be done by getting the necessary equipment and then being patient with routine. But one gets the impression that outside of work hours, he might have a word to say about Washington routine, and perhaps in a loud voice. Right now, he's feeling his way.

Asked what he does in his spare time, OPC's rail transportation chief, says: "What spare time?" But if he had it, he probably would be found making furniture. He's an "Amateur carpenter," as he puts it.

Mr. Wilson is married and has 2 sons, one is a second-lieutenant in the Army air corps and the other is attending Rutgers University.

Mr. Eberle—whose desk is backed against Mr. Wilson's—is also a University of Pennsylvania man. He majored in chemical engineering. During World War I he was a Navy lieutenant on convoy duty. For 15 years following the war, he worked in the marine transportation division of an insurance company. Following this, he acted in a private capacity as a transportation consultant making various surveys, primarily connected with oil companies.

During the 4 years before coming to OPC, Mr. Eberle worked for Atlantic Refining as an assistant to the general manager of transportation.

Somewhat in the spirit of a postman who walks on his day off, Mr. Eberle sails a boat, but says he's not doing any sailing these days.

But figuratively, Mr. Eberle sails the 7 seas and all U. S. inland waterways, as it's his job to keep up with what goes on, for wherever oil moves on water, it's this man's job to follow it.

Boyd Wilson

William C. Eberle

Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY

Big Expansion in Refining Lies Ahead

By GEORGE B. MURPHY, NPN Technical Editor

• NEW YORK, Feb. 12.—In the opinion of several technical executives of large oil companies with headquarters in New York, 1942 will be the biggest dollar investment year in the history of the petroleum refining industry. The need for 500,000 bbls. daily of additional crude capacity, as well as other expansions, is also pointed out by Walter Miller, chairman for refinery engineering of the Petroleum Division of the A.I.M.E., at its meeting here this week.

The huge capital outlay required will in part be borne through loans from the federal government, since it will be utilized mainly to insure wartime petroleum requirements. Refiners are called upon, however, to consider profit possibilities from these new plants as secondary until after the war. Many of the latest processes and products were commercially developed by the courage and imagination of executives who are confident that any sacrifice of dollars today will be amply repaid in the future.

Time is the most important single factor for any of these new installations which our government needs today. The smallest and largest refiners can join forces in this effort and await tomorrow before again entering into economic competition with one another.

The government is lending every aid to the petroleum industry in its struggle to achieve maximum output of vital products. There should be no conflicting triangle of public industry and government interests. The Petroleum Co-ordinator's office is manned by an exceptionally able personnel, who are striving to overcome any possibility of clashes within the triangle of economics, politics and technology. The Refining Division of the Petroleum Co-ordinator's office is exerting every effort to assist in the erection of new plants for the small refiner with the assurance that, after the war, the product output of these plants will have no difficulty in competing upon a price basis with that of larger companies. It is suggested that small refiners of a particular community may lump their resources for the erection and operation of the latest type process. The Petroleum Co-ordinator's office will be glad to assist with these projects and to supply technical personnel for the purpose if requested.

To return to the original thought of this editorial, 1942 will witness large expansion in our capacities for aviation gasolines, synthetic rubber, toluol, glycerine, petroleum chemicals, etc., as well as high-quality lubricants and wax. In the opinion of one large company executive, catalytic cracking will be the most important new development in 1942. For this method using a fluid catalyst, approximately $100,000,000 will be spent for new plants by 10 or 12 companies this year. It was said that the utilization of this method will supply large quantities of not only aviation gasoline, but toluol for explosives and dienes for synthetic rubber.

Alkylation using the sulphuric acid catalyst, will be still further expanded and developed for aviation fuel, according to this executive, and he understands that hydrofluoric alkylation will go beyond the pilot plant scale and become commercialized this year.

The synthetic rubber output will be rapidly expanded. The Standard Oil Co. of New Jersey is prepared to manufacture either the Butyl or Butadiene types in co-operation with the Firestone Tire & Rubber Co. In addition to one plant producing over 10 tons a day, this company has two other plants under construction. The future of synthetic rubber looks bright, since there are four useful chemical methods for manufacturing butadiene. Refiners are dehydrogenating butane or butylene in some cases, while cracking may also be used, although the butadiene yield is said to be low. Cracking as utilized by domestic gas companies by complete gasification of petroleum fractions, is another butadiene source, but again the yield is low. Another possible source of synthetic rubber from petroleum may be 2.4 pentadiene (isoprene). Studies are being made to improve the yields and quality now being obtained.

New chemicals will be developed this year from petroleum sources. Ethyl, propyl and butyl alcohols, acetone, aldehydes and ketones are already being sold by one company here, whose representatives believe that acetylene from light hydrocarbons using the electric arc is feasible if the high investment cost requirement could be justified.

Another technical executive stated that his company was now producing at the rate of several thousand tons of butadiene per year and that this capacity was to be greatly increased by a recent appropriation of $25,000,000 for this purpose.

This company, it was stated, which developed the hot acid selective polymerization plus hydrogenation process for "iso-octane", is utilizing olefinic gases in new installations for sulphuric acid alkylation.

The representative also stated that the "Solutizer" process for mercaptan removal utilizing sodium isobutyrate after caustic treatment is a new development that will

*Reviewed in National Petroleum News, Feb. 11, pg. 21, published in full in *Mining and Metallurgy*, February, 1942, issue.

improve aviation gasoline quality this year. This company also manufactures many chemicals that have wartime uses.

Other oil company executives spoke of new installations in 1942 which will consist of plants for butadiene and styrene, alkylate, new utilization of ethane, ethylene and propane, toluol and other aromatics, additives, and stabilizers.

The small refiner is expected to assume his share of these new processes. Most of the important products for aviation fuel and synthetic rubber require manufacture in plants with a minimum capacity of 500 bbls. per day, so that the smallest refiners may pool their resources. While the major petroleum war requirements today may be for aviation fuel, rubber, toluene, etc., the small refiner can still supply needed gasoline, lubricants, wax, heavy fuels and asphalt. The manufacturing plants for other wartime products still have need of such materials.

The coming months look like a bright period for petroleum refiners, both large and small, and the degree of achievement will depend upon the extent to which individually they display courage and resourcefulness.

Midwest Power Conference Scheduled

Annual meeting of the Midwest Power Conference will be held April 9-10, at the Palmer House, Chicago. This conference is sponsored by Illinois Institute of Technology, with the co-operation of 9 other midwestern universities and colleges and the Chicago sections of engineering societies.

Among the subjects of papers of interest to refinery operations are: Boiler circulation problems, feedwater treatment in small power plants, preventing and extinguishing electrical oil fires, furnace design development, diesel vs. steam locomotives.

Diesel Engine Horsepower

Diesel engines manufactured in 1941 totaled 4,600,000 horsepower, as compared with 3,500,000 horsepower in 1940, it is reported. Production for 1942, stimulated by wartime needs, will be 50% larger than in 1941, it is estimated. Biggest single field of application for diesel power in the U. S. is marine, including the U. S. Navy. Railroads used 450,000 diesel engine horsepower in 1941, trucks 310,000 horsepower, buses 250,000 horsepower.

Contents

REFINING TECHNOLOGY

February 18, 1942

Synthetic Rubber Manufacture	R-51
Correlation of Filter Plant and Laboratory Results	R-57
War-Time Asphalt Requirements	R-60
Advertisers' Index	R-64 & 55
Other Editorial Index	1

Sources of Fuel and Power Compared in Terms of Coal

The available supply in the U. S. of the 4 principal sources of fuel and power—coal, petroleum, natural gas and water power—in the period 1929-40, is the basis of a recent report by the U. S. Bureau of Mines.* The volumes shown are in terms of net tons of coal, based upon the calorific or B.t.u. equivalents, thus furnishing a comparison of the relative growth in recent years of the supply of these sources of fuel and power. See Figure 1.

The data given on annual volume is "available coal", i.e. production plus imports and minus exports, coke (in terms of coal), briquets and foreign bunkers, plus or minus changes in industrial stocks of bituminous coal; production of petroleum; natural gas sales; and hydroelectric power.

The steadily increasing importance of petroleum as a source of fuel and power in this country is shown in its contribution to the total of available supply of 35% in 1940, as compared with 26% in 1929. Gas now contributes 7%, as compared with 5% in 1929. Coal was the source of 66% of available supply in 1929; dropped to 54% in 1940.

"The figures should not be weighed against one another to determine the competitive position of these commodities in the production of power, as comparable data are not available," states the report. "Typically, only about 38% of crude runs to stills in the U. S. result in fuel and gas oils, and exports of fuel oils and net exports of crude oil were about 6% of production in recent years. The average over the 1929-40 period was about 4%.

"Therefore, less than one-half of the output of petroleum should be considered as competing directly with coal. Likewise, sales of natural gas in the U. S. are not comparable with total consumption, as natural gas used in the field by producers and that for certain other uses, such as the production of carbon black, are not included in the figure covering sales. Apparently about one-half of the output of natural gas competes directly with coal."

The annual production of coal, petroleum, natural gas and water power in the U. S. in terms of coal, approximates 1,000,000,000 tons, the report brings out. Without the opening of new mines, the sinking of new wells, or the harnessing of additional streams, the annual output of fuel and power can be considerably increased. The present production capacity of this nation is estimated at about one-half the world output of fuel and power.

Coal, petroleum, natural gas and water power available for consumption during the period 1929-40 averaged 754,000,000 net tons (in terms of coal); was as a high of 884,000,000 net tons in 1929, declined steadily to a low of 592,000,000 tons in 1932 and increased almost as steadily to 879,000,000 tons in 1940. The report estimates the 1941 production will exceed the 1929 high.

*U. S. Bureau of Mines Information Circular No. 7189, "Coal, Petroleum, Natural Gas and Electricity in the U. S., 1929-40", by John R. Bradley, of the Coal Economics Division.

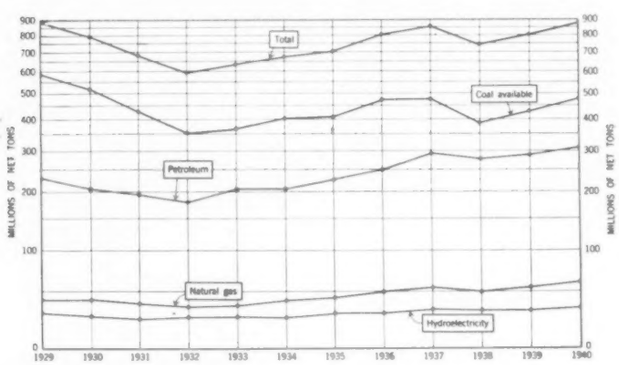


Fig. 1. Energy by kinds available in the U. S., in terms of coal, 1929-40

Manufacture of Synthetic Rubber

Processes by which Butadiene is Converted into Artificial Latex are Described, and Properties of Natural and Synthetic Rubber Compared

By GEORGE B. MURPHY, NPN Technical Editor

TO OBTAIN a first-hand picture of the present status of synthetic rubber manufacture, the writer visited the plants of Goodyear, Goodrich, and Firestone at Akron, Ohio. He came away convinced that the major interest of the executives and technical personnel of these companies is the rapid expansion of their manufacturing facilities for the output of this important war-time product. The rubber industry is contributing its share to the program directed toward the yearly rate of 400,000 tons of synthetic rubber by 1944, but is depending upon the petroleum industry to supply the necessary gallonage of butadiene.

Dr. E. R. Weidlein, Washington chief of the OPM chemicals branch, Jan. 14 said that the rubber, chemical and petroleum industries should pool their resources for the manufacture of 400,000 tons per year of synthetic rubber. He believed the raw material, butadiene, is now in sight for about half the required yearly capacity, since this product could be obtained when starting with crude petroleum, natural gas, alcohol or acetylene. Some 20 other chemicals are needed, such as styrene and acrylonitrile, but the quantity used is small and can be readily obtained from the chemical industry. He believes that the first 200,000 annual tons will be in production by Jan. 1, 1943, and says the second 200,000 tons has been discussed with the petroleum industry, which is considering the problem. He believes that the butadiene required could be obtained as a by-product from the 100-octane aviation gasoline plants now under construction, without reducing the supply of aviation fuel.

Price Administrator Leon Henderson, however, said on Jan. 15 that tire rationing will not be relaxed, since it is entirely possible that every pound of synthetic rubber that can be produced in the future may be needed for direct military use.

Some of the companies now engaged in the manufacture of synthetic rubber, and the brand name or type of their product are as follows:

E. I. duPont de Nemours, Neoprene.
Goodyear Tire & Rubber Co., Chemigum (Buna type).
Standard Oil Co. (New Jersey), Butyl Rubber.
Standard Oil Co. (Louisiana), Buna Rubber.
U. S. Rubber Co., Buna Rubber.
Firestone Tire & Rubber Co., Defense Rubber (Buna type).
Thiokol Corp. (Dow Chemical Co.), Thiokol.
Hycar Chemical Co. (B. F. Goodrich Co. and Phillips Petroleum Co.), Ameripol (Buna type).

The output of synthetic rubber from the above and any other plants in the country as of the present is not available. Various authorities in June, 1941, put the annual rate of output at only 10,000 tons annually. At the end of 1941—the annual rate of production was around 17,000 tons. The writer's opinion, based upon recent discussion with the personnel of the rubber companies, and upon new plants now contracted for, is that the yearly rate will be between 70,000 and 90,000 tons by Jan. 1, 1943.

At the *Goodyear* plant, a technical executive supplied information upon the two main questions. What raw materials can the petroleum industry contribute? How is syn-

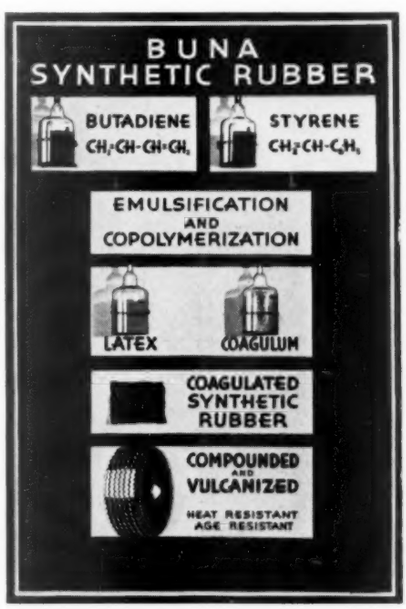


Fig. 1—Major steps in the manufacture of synthetic rubber from butadiene. This petroleum derivative and styrene, a coal tar and petroleum derivative, are emulsified and joined together to form large molecules. The result is a rubber molecule which, in quantity, takes the form of artificial latex, so nearly like the tree-grown latex that chemical tests are necessary to tell the difference. From the synthetic latex, rubber products are made by the usual processing methods

Fig. 2—High pressure storage tanks for butadiene, at an Akron rubber plant. It is shipped from refineries in special tank cars, similar to those handling propane

thetic rubber manufactured? The main raw material requirement is butadiene, for which there may be a demand for as much as 70% by weight of the synthetic rubber manufactured. The butadiene may be shipped in tank cars, similar to propane cars, together with approximately 0.02% of inhibitor to prevent oxidation and polymerization. The speaker could provide no specification for the butadiene that Goodyear might purchase in the future.

This company purchases some acetylene in the form of calcium carbide, which they use to make the styrene and acrylonitrile, the former used for Buna S and the latter for Buna N. These chemicals are not obtained from the petroleum industry, but start with benzol or ethylene dioxide. Most of their requirements are purchased from chemical companies.

The companies which are in a position to supply butadiene at the present time are Standard of New Jersey, Shell Oil Co., Phillips Petroleum, Dow Chemical and Carbide & Carbon Chemicals. The price is approximately 18c per pound, said the official of one synthetic rubber company.

At the Goodyear plant, technologists stated that the manufacture of synthetic rubber consisted of, first, polymerization of the reactants, such as butadiene and styrene (or acrylonitrile), in an emulsion form with other chemicals and a soapy water. Agitation is maintained under pressure equivalent to that of the vapor pressure of the butadiene at a temperature of 100 to 120° F. for a time period of a few hours. The polymerization product is a dispersed droplet of the solid, which later becomes "latex". These small particles are dispersed in the soapy water where they are coagulated. The product is then washed, dried, and milled when it becomes synthetic rubber. No flow sheets of this process were available for public distribution. The properties of the product will be discussed later. The plant, with an expected capacity of 10,000 tons per day, will not require many operators since most of the controls are automatic. It was estimated that a total personnel of 150 would be required.

Fig. 3—Reactor equipment showing two polymerizing vessels, with control panels in the background

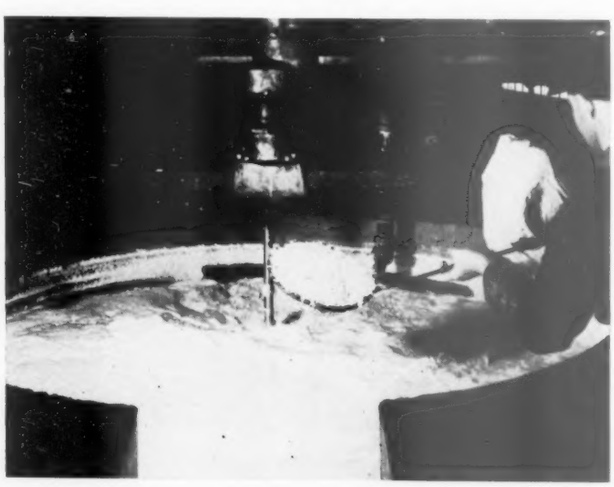


Fig. 4—The synthetic latex after coagulation in vats with dilute acids. The operator has withdrawn a sample of the rubber particles

The present quoted price for natural rubber is 22c per pound, while that quoted for synthetic rubber is 70c per pound. It is expected, however, that the latter figure may be reduced to around 30c, when the industry has become expanded and stabilized.

The *Goodrich* company has joined forces with the Phillips Petroleum Co. to form the Hycar Chemical Co., which manufactures the synthetic rubber known as Ameripol. It was stated that this product was the result of 14 years research and that on June 5, 1940, tires made of this material were offered for sale at a price of $19.80, which was one third higher than those produced from natural rubber. The Hycar Co. forms the synthetic rubber and the Goodrich Co. fabricates it for its products. The Hycar company offers synthetic rubber for sale on the open market and is one of the four companies who have obtained a government contract for the erection of a 10,000-ton per year plant. This plant will be similar to those of Goodyear, United States Rubber and Firestone, each of which will cost $2,750,000 to erect. The Hycar plant will be located in a middle western city rather than in Akron, and is expected to be in complete operation by January, 1943. (It should be noted that the estimate of $400,000,000 for 400,000 tons of synthetic rubber a year is only an objective, and that the $11,000,000 already contracted for to erect plants with 10% of this capacity does not take into account the additional manufacturing facilities required for the butadiene, catalysts and other raw materials required in the reaction.—Ed.) Goodrich has a 7000 ton per year plant now in operation.

As a matter of record, in spite of the war, the rubber industry in Akron is still of considerable size, with a total personnel of about 42,000, of which Goodyear has 16,700; Goodrich has 12,500; and Firestone has 9,600. It is also interesting to note that Goodrich feels that it was the company who originated synthetic rubber from research developments by the Hood Rubber Co. in 1911, when butadiene was polymerized to rubber.

In questioning one of the Goodrich technical executives along the same lines as the Goodyear men, the following information was obtained: The raw materials required at present are butadiene and styrene, with acetylene relatively unimportant. It was estimated that the Hycar Co. may need 10,000 tons of butadiene per year. It may be transported in ordinary tank cars as a liquid under pressure, with precautions taken to avoid contact with oxygen. It must be of the highest quality, perhaps 95% by analysis, and contain an inhibitor to prevent polymerization and oxidation. Pilot plant work is being conducted to provide a source of acetylene from petroleum sources, while butadiene can be manufactured by catalytic dehydrogenation of butane. It may also be produced by thermal cracking of buntane in the vapor phase followed by fractionation.

In the manufacture of synthetic rubber by this company, butadiene is mixed in an emulsion form with styrene or acrylonitrile in an attempt to stimulate the conditions of latex, which contains 65% of water. A catalyst is added to the reaction mass in the polymerization unit. The catalyst is usually of the peroxide type. The reaction is carried out at a temperature of 140 to 160° F., at a pressure equivalent to the vapor pressure of the butadiene at that

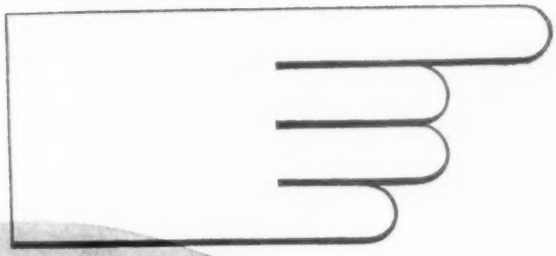


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Fig. 5—Removing the water collected by the latex during the coagulation step

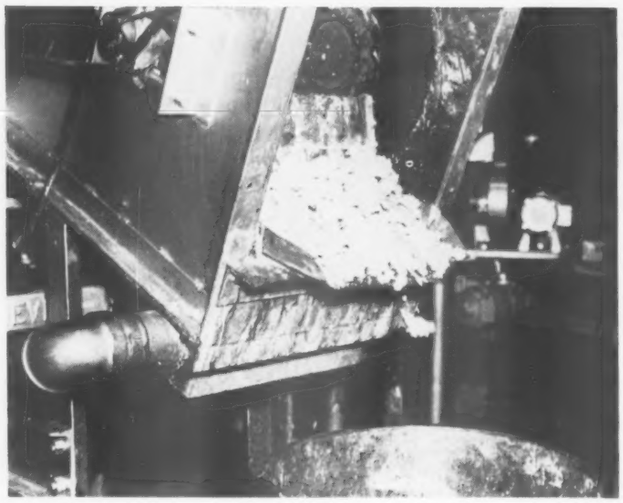


Fig. 6—The mill through which the coagulated latex passes for washing

temperature and for a time period of hours. The mass is then coagulated with acids and stabilized to prevent oxidation by the addition of phenylbetanaphthylamine. The following operations of washing, drying, kneading, etc. are similar to those ordinarily used for natural rubber.

Another technologist supplied mainly statistics of the industry. He stated that rubber tonnage capacities were always given in long tons of 2240 pounds. He stated that rubber was the largest single import to the U. S. and that our requirement today is of the order of 850,000 tons per year. As of 1940, 75% of all our rubber went into tires. Approximately 97% of natural rubber came from the East Indies. In his opinion, the new synthetic rubber plants would take only 25% to 30% of the total government appropriations for synthetic rubber, and the balance would be available to petroleum and chemical industries for the manufacture of raw materials, especially butadiene.

The *Firestone* company also presented an interesting picture of their developments in the manufacture of synthetic rubber. They have been in the synthetic rubber business since 1933, when they supplied the U. S. Navy with rubber tires made of that product. During 1941, 12,000 long tons of Buna synthetic rubber were produced. This company operates under patents of the Standard Oil of New Jersey and manufactures Buna A and Buna N synthetic rubbers. The company has had one plant in operation for two years and is now starting the erection of the second plant.

While no technical men were available to discuss the process, the writer was supplied with typed copies of the methods, which showed that the ingredients are first emulsified with a modern soap, and under the application of heat and pressure, copolymerization is affected. Essentially this is the joining of one acrylonitrile (or styrene) and two butadiene molecules to form a complex rubber molecule. The product, artificial latex, looks like milk and in appearance is the same as natural rubber latex. The Buna is coagulated, compounded and calendered in the same way as the natural product.

Method of Manufacture

There have been many synthetic rubbers manufactured on a commercial scale within the past 25 years, starting with the 2300 tons of German "Methyl Rubber", produced during 1914 to 1918. This manufacture was stopped because the product in peacetime would not compete with natural rubber. It was apparently recommenced with the announcement of the German "Buna" rubbers in 1934.

In the U. S. about 1925, Notre Dame University proposed the use of acetylene compounds to prepare rubber, and based upon this start, the duPont company in 1931 announced the product, "Neoprene". Since then many other synthetic rubbers have reached the market, such as Thiokol, Koroseal, Vistanex, Butyl rubber, etc. The processes referred to in this article, however, are the Buna or copolymer type of synthetic rubber.

The methods utilized by the four major rubber producers and their petroleum refining associates (Standard Oil Co. of New Jersey, Phillips Petroleum Co. and Shell Oil Co. Inc., which last named has been active in research in synthetic rubber and in providing butadiene commercially) have not been published in detail for obvious war reasons. However, the schematic flow chart illustrating previous descriptions is shown in Fig. 1, which together with the equipment photographs supplied by Goodrich, Goodyear, and Firestone companies (Figs. 2-9) gives an overall picture of the manufacturing operations. For petroleum technologists interested in more detail, reference to the bibliography of this article is recommended.

The chart shown as Fig. 1 traces the major steps in the production of synthetic rubber, as illustrated by the Firestone Tire & Rubber Co.

Fig. 2 shows a tank car of butadiene being unloaded into horizontal high-pressure storage tanks. These tanks, holding liquid butadiene under a pressure of 20 to 40 pounds, are on the property at Akron of the Hycar Chemical Co., jointly owned by Goodrich and the Phillips Petroleum Co.

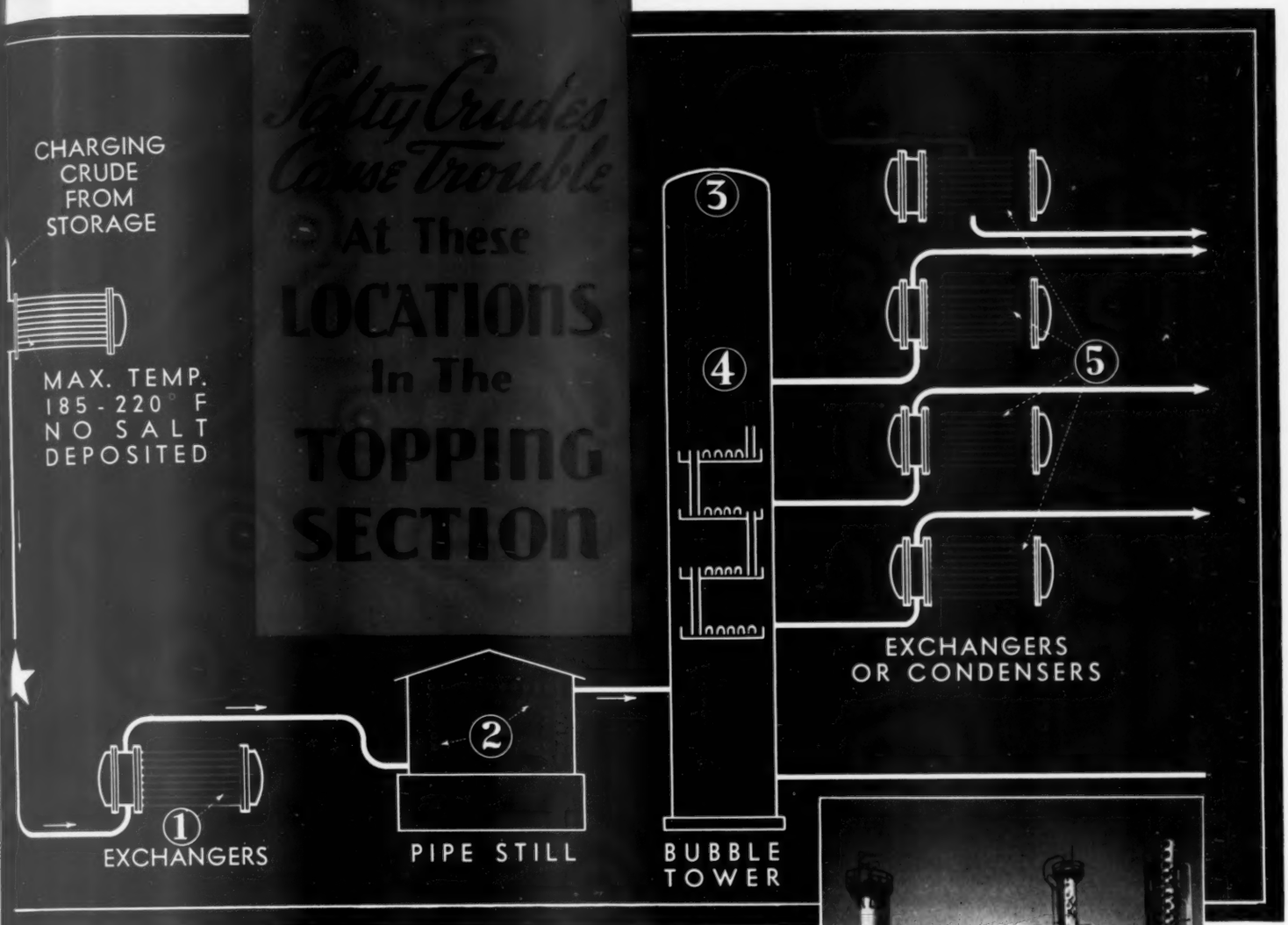
Fig. 3 is a view of the reactor equipment showing two polymerizers with a control panel in the background in the Goodrich plant. Each reactor has the capacity for about one ton of synthetic rubber daily. Mr. A. L. Hollis, technical supervisor of the plant, is shown at the control board.

A thick milky white liquid, containing two and one-half pounds of synthetic rubber per gallon is discharged from the polymerizers of the Goodrich installation and collected in large vats, where it is stirred and stabilized. The rubber content of the liquid latex, as shown in Fig. 4, is solidified in these vats by coagulation with dilute acids. The process resembles the formation of curd in sour milk.

Fig. 5 shows a Goodyear installation consisting of a wide conveyor, on which the latex passes through a dryer to remove the water collected during the coagulation step.

Fig. 6, another Goodyear installation, shows a mill

Salty Crudes Cause Trouble At These LOCATIONS In The TOPPING SECTION



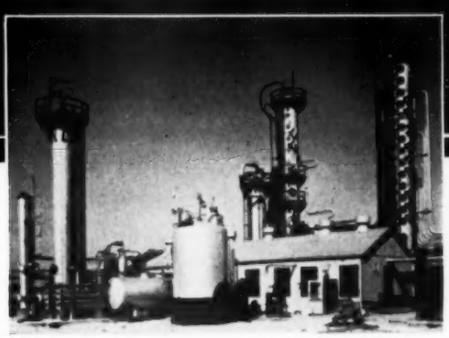
(1) EXCHANGERS: Plugging is the most serious trouble caused by salty crude in this area. Salt deposited in heat exchangers not only reduces throughput, but frequently causes overloading of the pipe still heater. In either case, lost on-stream time ultimately results.

(2) PIPE STILL: Expensive shutdowns for cleaning frequently are necessary when salty crudes are charged. When tubes are not cleaned often, plugging and blistering result, necessitating costly replacements. Corrosion from acids evolved in the distillation of salty crudes is another source of trouble and high maintenance cost.

(3) BUBBLE TOWER—Upper Section: This area is particularly hard hit by metal losses and deterioration, due to the evolution of corrosive acids.

(4) BUBBLE TOWER—Trays: Expensive maintenance of lower bubble trays frequently plugged with salt, sometimes resulting in inability to meet product specifications.

(5) CONDENSERS or EXCHANGERS: Tubes in these units are subject to severe damage by corrosion, requiring many repiacements and the loss of considerable operating time.



A Petreco Desalter installed ahead of the Topping Section, as indicated ☆, will eliminate or materially lessen salt troubles throughout the refining system. Many refiners using the Petreco process have made substantial savings by the elimination of plugging and scaling, reduced corrosion and metal losses, less usage of ammonia, and by the improvement in refined products.

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Fig. 7—Mill for mastication of the synthetic rubber and addition of various chemicals, such as sulfur, carbon black, accelerators and pigments

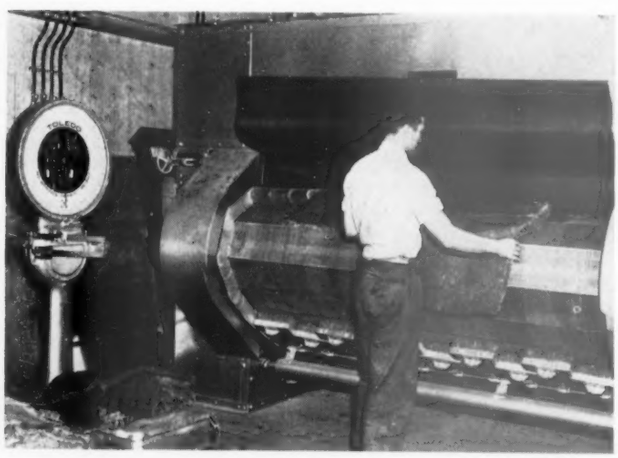

Fig. 8—Synthetic rubber being dried on a continuous conveyor passing through a hot room, when it is ready for processing

Fig. 9—Special drying room in another plant, where the last traces of moisture are removed from the synthetic rubber and it is ready for processing

through which the coagulated latex is passed for a thorough washing.

Fig. 7 shows the typical Firestone synthetic rubber mill for mastication and addition of various chemicals such as sulfur, carbon black, accelerators, and pigments.

Fig. 8 shows Goodyear's "Chemigum" synthetic rubber being dried on a continuous conveyor passing through a hot room ready for processing into synthetic rubber products.

Fig. 9 shows Firestone synthetic rubber being withdrawn as the finished raw material for tire manufacture, from a special drying room. Here all traces of moisture are removed and the synthetic stock in sheet form is ready to be made up into tread, plies and other parts going into the tire.

Many estimates and goals for the future production rate have been issued by Washington authorities, such as Dr. Weidlein's 200,000 tons annually by January 1943, previously mentioned, and that of Jesse Jones, annual capacity of 400,000 tons by the summer of 1943. The author's opinion, based upon discussion with personnel of rubber companies, is that the yearly rate will reach 90,000 tons of all synthetics by January, 1943, the greater part of which will be Bunas.

Properties of Buna Synthetic Rubber

Most of the properties of rubber cannot be defined in numerical units. This product is not susceptible to setting rigid specifications, such as those used for petroleum products. The literature, however, does supply comparative properties for synthetics versus natural rubbers. Some of the comparisons, as listed in the table below, were taken from papers by rubber authorities and are useful mainly to indicate the great number of tests which are considered important in the commercial use of rubber. No attempt has been made to list the comparative properties of other synthetics than Buna S since these products vary widely among themselves.

Table 1—Comparative Properties of Natural and Synthetic Rubber

	Natural	Buna S
Tensile Strength p.s.i. (Vulcanized Carbon Black Comp.)	5000	4200
Elongation %	650	650
Sp. G.	0.92	0.98
Modulus (resistance to deflection)	good	better
Permanent Set (after stretching)	good	poorer
Compression Set	good	good
Abrasion Resistance	good	better
Tear Resistance	good	good
Aging (Resistance to air, light, heat)	fair	good
Resistance to heat (high temps.)	fair	good
Resistance to swelling in solvents	poor	good
Resistance to corrosive chemicals	fair	fair
Water Resistance	good	excellent
Electrical properties	good	good
Elasticity and Hysteresis loss	good	poor
Resistance to diffusion of gases	fair	good
Flexing	good	excellent
Flame resistance	nil	nil
Color	OK	OK
Odor	dies	persistent
Adhesion	Satisfactory	Satisfactory
Reclaiming	fair	probably OK
Hardness (Durometer)	good	good

It should be noted that these properties are for the uncompounded rubber. The properties may vary if the tests are made upon tread compounds.*

*"Properties of Some Synthetic Rubbers" SAE Journal, Sept. 1941.

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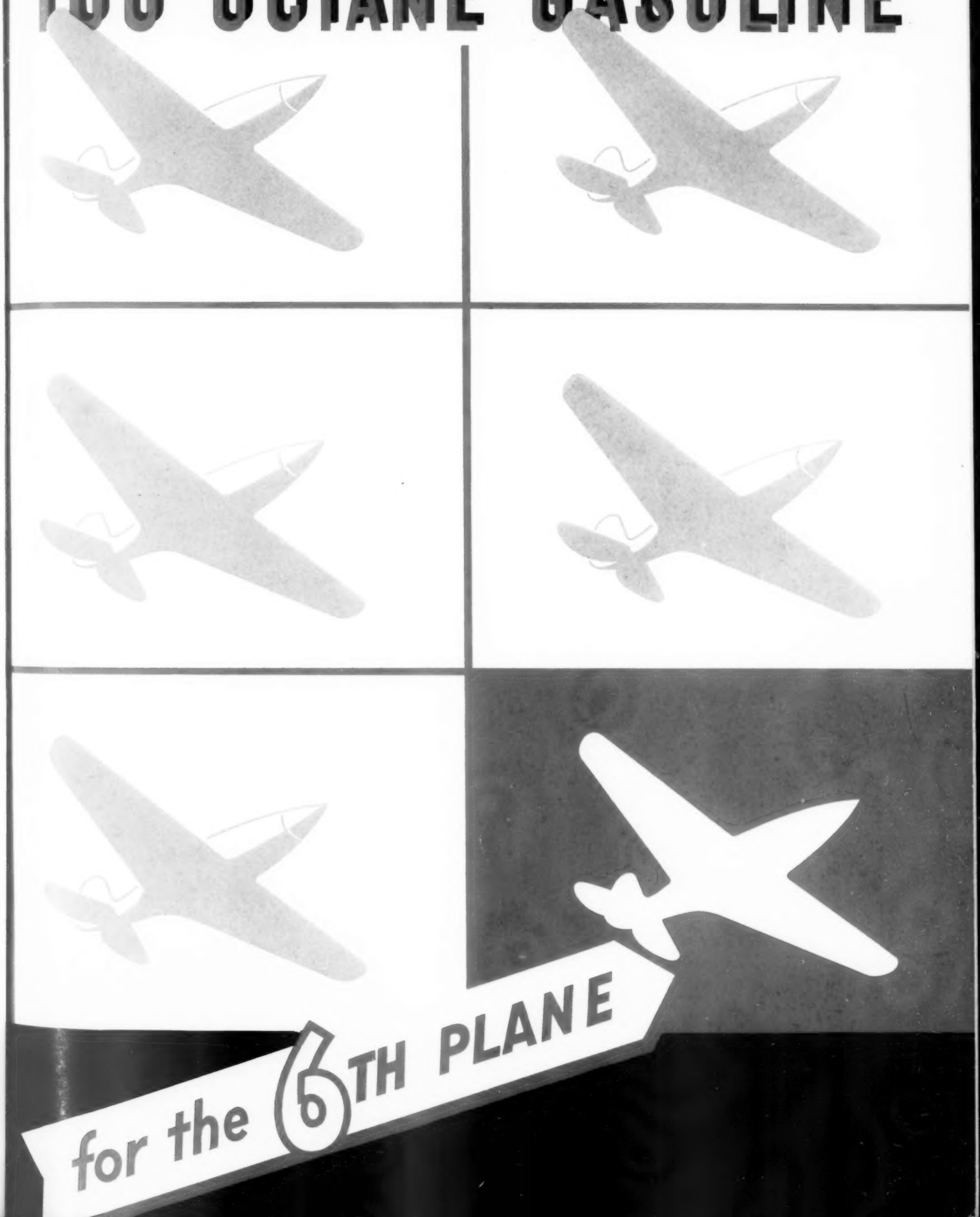
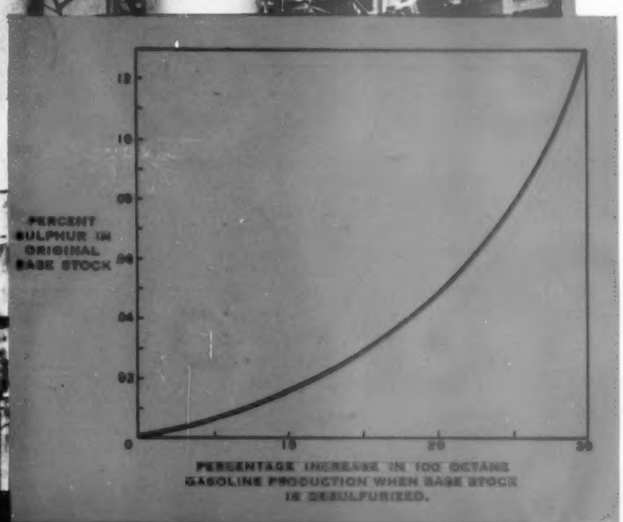
(Continued on page R-57)

100 OCTANE GASOLINE



20% MORE 100 OCTANE GASOLINE

from a given amount of Alkylate . . . . with Catalytic Desulfurization of Base Stocks*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0
10
20
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Correlation of Filter Plant Yields with Lab Results

By G. C. Jones*

THIS article was prompted by the response arising from a previous paper[1] which described a new procedure for evaluating the efficiency of granular adsorbents in treating mineral oils. As that paper dealt only with laboratory methods and technique, no attempt was made to show the relationship between laboratory and plant results. That relationship is briefly considered here.

In addition to being useful in duplicating filter plant conditions, data is presented to show that plant yields may be checked within 5% by means of the previously described method.

Until recently, there has been surprisingly little laboratory study or control of plant filtration, which may have been due in part to a lack of adequate laboratory equipment. The described procedure is considered a definite advance in attaining closer correlation between laboratory and plant. In its practical application it may be employed for various purposes, the most important being; to determine the filterability of oils, in measuring the decolorizing power of clays, as a means of solving a particular filter plant problem, and in the study of filter plant practices in general.

While considerable work involving a variety of problems in a number of plants has been successfully completed, in order to demonstrate the accuracy with which plant results can be predicted with our system, we have taken, as an example, part of the co-operative work carried out during the past year with one Pennsylvania refinery. Evidence supporting our ability to check plant yields will be first presented and this will be followed by a simple illustration of the value of our setup in solving filter plant problems.

Laboratory and Plant Yields

Laboratory evaluation of oil and adsorbent had been made for this plant at various times over the past two years, and very good agreement with plant yields had been obtained. However, it was felt that, in a direct comparison, the results obtained over a period of time would be more reliable than those of individual tests, especially as regards plant yields, since experience has shown that individual plant filters frequently deviate considerably from the average, for various causes which are often inexplainable. For this reason, as well as the fact that it is extremely difficult to segregate plant filters satisfactorily, it was decided to compare the average plant filter yield for the month of October with the average of several laboratory evaluations made on plant solutions and plant burn bauxite, over the same period. The plant and laboratory filtering conditions as well as the procedure followed for this work are outlined below and the results are found in Table 1.

The average yield of all of the 21-ton plant solution

*Floridin Co., Warren, Pa.

(1) Evaluation of Granular Adsorbents for Petroleum Refining, by O. FitzSimons, R. C. Amero and R. G. Capell, REFINING TECHNOLOGY, Oct. 29, 1941, pg. R-339.

TABLE 1.—Laboratory Filtration

Date 1941	No.	Adsorbent	Oil	N.P.A. Color	YIELD c.c.	YIELD Gal./Ton	Equivalent Yield Gals. on 21 ton Plant Filter	Per Cent Deviation from Average
10/1	1	62 plant burn bauxite, used 200 grams	Plant solution for 10/1/41	6	635	762	16,000	5.5
10/3	2	63 plant burn bauxite, used 200 grams	Plant solution, 4 days composite	6	665	795	16,700	1.4
10/21	3	Plant burn bauxite, used 200 grams	Plant solution, 5 days composite	6	665	818	17,180	1.4
10/21	4	Same as 3	This days plant solution	6	670	825	17,330	2.3
10/29	5	Plant burn bauxite, used 180 grams	Plant solution, 6 days composite	6	605	807	16,950	0.0
10/29	6	Same as 5	This days plant solution	6	625	833	17,490	3.2
Average laboratory yield for October						807	16,940	...
Average laboratory yield for composite solutions only (Nos. 2, 3, 5)						807	16,940	...

filters for the month of October was 16,470 gal. per filter. This was obtained from careful records kept of the daily and monthly yields, and the number of filters used.

Comparison of Laboratory and Plant Results

It should be mentioned that the laboratory results are the average of two filters in nearly each case. As was expected, there was greater variation between the individual days' solutions than for the composite oil samples, although they averaged the same. The important point to be noted is the close agreement between the actual plant filter yield (16,470 gal.) and the laboratory average equivalent, 16 940 gal. This agreement is within 3%, which is considered an excellent check. It may be noted too, that the greatest deviation from the average was less than 6%, which indicates a very uniform maintenance of oil and adsorbent efficiencies in the plant over this period.

Application to a Plant Problem

The management of this plant had observed that their solution yields had declined appreciably during the warmer months and then came back up to a high peak during cold weather. This condition had prevailed every year since bauxite had been used. When the drop began again, upon the advent of warm weather in 1941, we were given the opportunity to work with the plant in an attempt to determine the cause, and of course the remedy, if possible.

As the fluctuation was seasonal, it was theorized that, since there is more water in the air in warm weather, the highly hydroscopic bauxite was picking up considerable more moisture at that time, which resulted in the reduction in efficiency.[2] To prove this, two samples of bauxite were obtained directly from the burner before entering the cooler. The temperature of this material when obtained was slightly over 500°F. One sample was sealed immediately and allowed to cool to 230°F. without exposure to air, then charged quickly to the laboratory filter and plant solution at 85°F. put on at once. The other sample was allowed to cool to 120°F. exposed to the air, then charged like the first. The results were as follows:

Plant Filter Data:

Filters	8′ x 14′
Capacity	21 tons bauxite
Filtering temperature	140°F.
Filtering rate	11 gal./ton/hr.
Solution	45% stock 55% naphtha
Finishing color	6 N.P.A.

Laboratory Filter Data:

Filters	1″ x 30″
Capacity	Amt. adsorbent for 15″ column
Filtering temperature	133°F.
Filtering rate	1 cc/min. (70 gal/ton/hr.)
Solution	Plant, 45% stock 55% naphtha
Finishing color	6 N.P.A.

Bauxite Sampling:

The plant burn bauxite was obtained direct from the burner before entering the cooler. Its temperature was about 600°F. when caught in a pyrex flask, and it was immediately sealed from the air and taken to the laboratory where it was charged to the 1-inch filter as soon as it had cooled sufficiently to allow the solution to be safely added.

Oil:

Composites of from 4 to 6 days plant solutions were used as well as individual days' plant solutions. It was felt that composite solutions might more closely approach plant averages than those for individual days, and this proved to be true, although the averages of the two sets were exactly the same.

Yield Determinations:

The laboratory yields were taken at exactly the finished solution color of the plant filters, which was approximately 6 N.P.A. All color measurements were made with Duboscq Colorimeter using the true color scale.

The difference in yield, as shown in table 2, was very close to that which had been experienced in the plant. So, on the basis of these results, steps were quickly taken in the plant to charge the bauxite to the filters as hot as expediently possible and with the minimum of exposure to air. In a short time a definite improvement in the plant yields was noted, although it did not reach the winter high, due to the limitations imposed by plant operation upon the effective exclusion of moisture. However, an increase of several thousand gallons in the daily solution yield was made possible as a result of the changes indicated by the laboratory investigation.

TABLE 2

Sample	Gal. Ton at 6 NPA	Comparative Efficiency
60 plant burn bauxite cooled in air, charged 120°F.	708	100
60 plant burn bauxite sealed while cooling, charged 230°F.	790	112

Conclusions

On the basis of the considerable laboratory work which has been done in conjunction with refinery filter plants, an example of which is presented here, it is concluded that by means of the laboratory method and technique previously described, plant yields can be checked within 5%, provided those plant operations concerned with filtration and burning are maintained on a reasonably efficient level. This procedure also offers a reliable means of studying various phases of percolation relative to plant practice.

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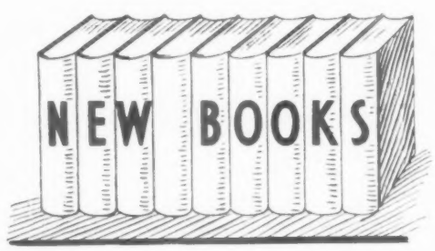

Equilibrium and Kinetics of Gas Reaction

Robert N. Pease, 1st Edition, 236 pages. Princeton University Press, Princeton, N. J. Price: $3.75.

This text was written by Professor Pease, based upon his lectures to seniors and first year graduate students at Princeton University. It presents recent developments in statistical mechanics for gaseous chemical reaction and should prove useful to some technical men in the petroleum refining industry. It contains 370 literature reference footnotes and an index of four pages.

Four New ASA Standards

The American Standards Assn. announces approval as American Standards of the following four new test methods for petroleum products developed by the American Society for Testing Materials:

For distillation of plant spray oils.

For calculating viscosity index.

For conversion of kinematic viscosity to Saybolt Universal viscosity.

For vapor pressure of petroleum products (Reid Method).

S.A.E. Opens West Coast Branch

The Society of Automotive Engineers has opened a west coast branch office, at 530 W. Sixth St., Los Angeles, under the direction of **E. F. Lowe,** S.A.E. assistant general manager.

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Wartime Requirements for Asphalt

By Gene Abson*

ASPHALT, per se, needs no introduction. Its usefulness has been firmly established since the days of Nebuchadnezzar, a Babylonian king whose name must be mentioned at least once in every treatise on asphalt to make it "authentic."

The use of asphalt has spread from an early application to bind together rude stones for highway purposes, to comparatively modern waterproofing; mastic and similar type floorings; pipeline coverings and linings; coal and coke briquetting; electrical and thermal insulation; wire and cable coatings; acidproof linings; sealing compounds; molded compositions such as battery cases and casket boxes; rubber compounding; paints; varnishes; enamels and japans; building paper; waterproofed package containers and many others. Ranking all such products in tonnage is the use in the paving industry, with the roofing industry the second largest consumer.

A Bureau of Mines bulletin of 1911 shows 159,424 short tons of asphalt produced from domestic crude in 1910. A bulletin for 1940 shows 5,179,353 short tons manufactured in the U. S. (exclusive of road oils) and, while final figures for 1941 are not available, the production will be over 6 million tons. Of the 1940 tonnage, approximately 60% was used in paving of various kinds. In an oil man's parlance, this tonnage means a billion and a quarter gallons, and actually represents manufacture in refineries within the U. S., about 75% from domestic and 25% from imported crude. Contrary to the opinion of some laymen, the importation of asphalt, as such, is inconsequential, being less than 0.5%.

In addition to these asphalt requirements, the petroleum industry sold some 340 million gallons of road oil in 1940. Without the construction of new refineries or the enlargement of existing capacities, these production figures could be materially increased.

Now that we are at war, with the heavy requirement of the defense program for metals of every sort, it means that reinforcing mesh and rods, side forms and the like, necessary for concrete construction, are more or less automatically ruled out, and this should open the way for an even greater increase in the construction of bituminous type pavements, from treatment with heavy road oil to hot mixtures employing semi-solid asphalt.

In no sense of the word should asphalt pavements and highways be now considered as "substitutes" for rigid construction. Proven statistics show that some 77% of the pavements in urban use are asphaltic and no doubt the same relationship holds true for highways. On the contrary, this should be the ideal time to encourage the use of asphalt by those who have followed the line of least resistance and specified rigid bases because someone ahead of them had started out that way. Local aggregates will still be available, war or no war.

The demand for more and more highways, strategic, military and for approaches to airports and factories producing war materials will increase rapidly. What is more practical than an asphaltic type of proven merit which can be turned over to traffic as soon as it is completed? With modern methods of construction, a mile of about 20-ft. roadway can be laid every day.

One of the most important and vital necessities for adequate defense is the increased construction of airports for use by planes of every type from the small training ships to the largest bombers. The major defense plan, before our entry into the war, provided for some 2000 airports for smaller planes, 1500 for medium sized ships and 500 of the largest and highest type airports. Now that we are actually in the war, no doubt these figures will be greatly increased. Asphaltic types of runways and turnarounds have been used in many of the major airports. These include hot and cold types such as emulsified asphalt, cutback asphalt, asphaltic macadam, sand asphalt, asphaltic concrete, oil mats and bituminous surface treatment. (See Table 1)

The flexibility of asphaltic surfaces is of particular advantage in the building of runways and the like over

Table 1—Typical Specifications for Bituminous Materials for Airport Work

HOT MIX	
Penetration at 77°F. 100/5	85/100 and 120/150 (Note)
Melting Point R & B.	104/140°F. and 95/131°F.
Flash, Cleveland Open Cup	347°F.+
Spec. Gravity 77°F./77°F.	1.0+
Ductility at 77°F. 5/60	100+
Loss 5 hr. 325°F.	1%—
Penetration residue in terms of original	60%+
Bitumen soluble in CS_2	99.5%+
Organic insoluble	0.2%—
Oliensis Spot Test	Negative
Bitumen extracted and recovered from finished pavement (Abson Method) in terms of original	
Penetration 77°F.	50%+
Ductility 77°F.	100+

(Note: 85/100 penetration and 104/140 melting point for access and service roads and parking areas. 120/150 penetration and 95/131°F. melting point for runways, aprons and taxiways. Similar materials are used for penetration macadam and asphalt-macadam

CUTBACK ASPHALT (for priming subgrade or foundation. Asphalt Institute)	
Flash, Tag Open	100°F.+
Furol Viscosity at 77°F.	75/150
Distillation:	
Distillate (% tot. dist. to 680°F.)	
To 437°F.	25—
500°F.	40-70
600°F.	75-93
Residue from dist. to 680°F.	
Vol. % difference	50+
Residue from distillation:	
Penetration 77°F.	120-300
Ductility 77°F.	100%
Soluble in CCl_4	99.5%

(If penetration of residue is more than 200 and ductility at 77°F. is less than 100 cm, material will be acceptable if its ductility at 60°F. is 100+ cm.)

SEAL COAT (Asphalt Institute)	
Flash, Tag Open Cup	80°F.+
Furol Viscosity at 140°F.	250-500
Distillation:	
Distillate (% tot. dist. to 680°F.)	
To 437°F.	25+
500°F.	55+
600°F.	83+
Residue from dist. to 680°F.	
Vol. by difference %	73+
Tests on residue from dist.	
Penetration 77°F. 100/5	80-120
Ductility 77°F. 5/60	100+
Soluble CCl_4	99.5%+

EMULSIFIED ASPHALT

Emulsified asphalts usually contain about 55% of asphalt of about 150/200 penetration at 77°F. and complying with the usual specifications for high type paving grades of asphalt.

The emulsion should be stabilized so as not to break prematurely during the mixing with aggregates used and during laying operations. Of major importance, also, is its ability to adhere to the aggregate after the emulsion has broken and the water has evaporated.

ROAD OIL	
Water, by vol. %	0.5—
Flash, Cleveland Open Cup	200°F.+
Furol Viscosity at 140°F.	350-600
Loss 5 hr. 325°F.	6%—
Soluble CCl_4	99.5%
Oliensis Spot Test	Negative
Residue of 100 penetration:	
% Residue	70+
Ductility 77°F.	100 cm+
Ductility 39.2°F.	7 cm+

There is no such thing as a "standard specification." Specifications must of necessity be those which will provide high type materials and naturally there will be some modification to meet particular requirements.

*Chicago Testing Laboratory, Inc.

From skim milk

After the cream has been skimmed off high-grade crude to supply the straight-run constituent of hundred-octane gasoline, then:

Universal processes will produce from what is left—the skim milk—vital synthetic constituents of 100-octane gasoline, as well as high yields of anti-knock motor gasoline and fuel oil of special high heating value

The nation must have these in enormous volume—as well as aviation gasoline—to help win the war

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

THE REFINERS INSTITUTE OF PETROLEUM TECHNOLOGY

recently constructed bases, when time does not permit of adequate presettlement or complete consolidation. Being flexible, the surface conforms to the gradual settlement which takes place and does not present a hazard by breakthroughs or upheavals, and, furthermore, building up such settled areas or sections is easily done with a minimum of expense and tie-up of traffic. This ease of maintenance and repair or reconstruction is of importance likewise in military forward areas under attack, or in the fighting lines. In England most of the repair to airfields damaged by enemy bombs is done with bituminous materials.

The building of large airports or munition factories in suburban areas necessitates the reconstruction or widening of existing approaches, or the elimination of bottle necks. It is here that asphalt lends itself to use, with a minimum of cost and inconvenience to traffic and a maximum in construction speed.

As examples of the uses of asphalt in airport construction, the following are typical:

Washington, National airport, Bolling field, Washington-Hoover airport, navy airport; all of asphaltic type surfaces.

New York City: La Guardia field. Asphaltic macadam.

Cleveland: Municipal field: Amiesite cold mix.

Salt Lake City: Asphaltic concrete, hot mix.

Selma, Ala: Cold mix asphaltic concrete.

Morgantown, W. Va.: Cutback asphalt.

Omaha, Nebr.: Hot mix asphaltic concrete.

New Orleans: Cold mix sand asphalt.

Dallas, Texas: Emulsified asphalt.

Akron, O.: Bituminous macadam.

Burbank, Calif.: Mixed-in-place asphaltic concrete.

Corpus Christi, Tex.: Asphaltic concrete.

Detroit, Mich.: Asphaltic concrete.

Analysis of Sulfur Compounds Occurring in Petroleum

A progress report on the study of sulfur compounds occurring in petroleum and petroleum products has been published by the U. S. Bureau of Mines, as Report of Investigations 3591, "Determination of Types of Sulfur Compounds in Petroleum Distillates", by John S. Ball, junior chemical engineer, at the Laramie, Wyo., station of the bureau.

A system for analysis is presented as selected from methods proposed as being the best for specific sulfur groups. It includes methods for the determination of hydrogen sulfide, free sulfur, mercaptans, disulfides, aliphatic sulfides, a group containing aromatic sulfides and thiophenes and water-soluble sulfur compounds. It is based upon determinations of mercaptan content as obtained by silver nitrate titrations, and upon differences in total sulfur as determined by the lamp method before and after removal of other sulfur compounds by extraction.

Brief reviews of the published methods of analysis are given, with the reasons and data that led to the selection of the method included in the system used. "The system does not completely fulfill the purposes for which it was intended because it gives results that are strictly valid only for straight-run gasoline," states the report. "It has advantages over those previously proposed in that the so-called residual sulfur, or sulfur that is not determined by any of the tests for sulfur groups, is considerably reduced and that more accurate methods, which have been developed since the proposal of previous systems, have been included."

The types of sulfur compounds commonly expected in petroleum and petroleum products are summarized in Table 1.

TABLE 1. Types of sulfur compounds found in petroleum and petroleum products

Type of compound	Formula	Occurrence or origin
Hydrogen sulfide ...	H_2S	Found in crude petroleum and formed in cracking.
Elementary sulfur ..	S	Found in crude petroleum and formed by oxidation of hydrogen sulfide.
Mercaptans:		
Aliphatic	RSH, where R is aliphatic	Found in crude petroleum and formed by cracking.
Aromatic	RSH, where R is aromatic	Found in cracked distillates.
Disulfides	R-S-S-R	Formed by oxidation of mercaptans.
Sulfides:		
Aliphatic	R-S-R, where R is aliphatic	Found in crude petroleum.
Cyclic (thiophanes)	$(CH_2)_nS$	Do.
Aromatic	R-S-R, where R is aromatic	
Thiophenes	C_4R_4S	Found in cracked distillates.
Sulfoxides	R_2SO	Formed by oxidation of sulfides.
Sulfones	R_2SO_2	Formed by oxidation of sulfides and by combination of sulfur dioxide with olefins.
Sulfonic acids	RSO_3H	Formed by action of sulfuric acid.
Sulfates	R_2SO_4	Do.

New Patents

Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Stret, NW, Washington, D. C., from whom copies may be obtained at rate of 25c each. State number of patent and name of inventor when ordering.

January 20, 1942

Treatment of hydrocarbon distillates—Wayne L. Benedict and Charles G. Dryer, Chicago, Ill., assignors to Universal Oil Products Co. Filed July 28, 1939. No. 2,270,248.

Manufacture of hydrocarbons—Vladamir Ipatieff and Raymond E. Schaad, Chicago, Ill., assignors to Universal Oil Products Co. Filed Oct. 16, 1936. No. 2,270,302.

Process for sweetening hydrocarbon distillate—Charles D. Lowry, Jr., Chicago, Ill., assignor to Universal Oil Products Co. Filed May 31, 1939. No. 2,270,332.

Catalytic hydrocarbon conversion—Vanderveer Voorhees, Hammond, Ind., assignor to Standard Oil Co. (Ind.) Filed Dec. 31, 1938. No. 2,270,360.

Process for extraction—Albert V. Caselli, Oakland, and Alan C. Nixon, Berkeley, Calif., assignors to Shell Development Co. Filed May 20, 1940. No. 2,270,667.

Process for production of isobutane—Martin de Simo, Piedmont, and Frank M. McMillan, Berkeley, Calif., assignors to Shell Development Co. Filed Sept. 29, 1939. No. 2,270,669.

Method of separating high molecular mixtures—Stanislaw Pilat and Marian Godlewicz, Lemberg, Poland, assignors to Shell Development Co. Filed Feb. 25, 1936. No. 2,270,674.

Process for converting hydrocarbons of low molecular weight—Frederick C. Frey, Bartlesville, Okla., assignor to Phillips Petroleum Co. Filed June 1, 1936. No. 2,270,700.

Catalytic treatment of petroleum distillates—Edwin T. Layng and Louis C. Rubin, Jersey City, N. J., assignors to M. W. Kellogg Co. Filed Sept. 13, 1939. No. 2,270,715.

Process of oxidizing a hydrocarbon, and process for oxidation of ethylene—Ernst Berl, Pittsburgh, Pa., assignor to Berl Chemical Corp. Filed Feb. 7, 1938. Nos. 2,270,779 and 2,270,780.

Cracking oil with catalysts—Ralph M. Melaven, Highland, Ind., and Rodney V. Shankland, Chicago, Ill., assignors to Standard Oil Co. (Ind.) Filed Dec. 31, 1938. No. 2,270,812.

Process for solvent extraction of liquid mixtures—Sijbren Tijmstra, Berkeley, Calif., assignor to Shell Development Co. Filed July 9, 1940. No. 2,270,827.

Lubricating oil—Elmer W. Adams, Hammond, Ind., Lawrence C. Brunstrum, Chicago, Ill., and Alfred W. Weitkamp, Whiting, Ind., assignors to Standard Oil Co. (Ind.) Filed Oct. 30, 1940. No. 2,270,241.

Process for producing a mono-hydrocarbon aluminum dihalide—Aristid V. Grosse, Chicago, Ill., assignor to Universal Oil Products Co. Filed Mar. 21, 1938. No. 2,270,292.

Lubricant and method of preparing—Eugene Lieber, Staten Island, N. Y., assignor to Standard Oil Development Co. Filed July 16, 1940. No. 2,270,319.

(Liquid) fuel—Joseph A. Wyler, Allentown, Pa., assignor to Trojan Powder Co. Filed Nov. 30, 1939. No. 2,270,400.

Process of dehydrating oils—Sumber C. Campbell, Long Beach, Calif. Filed Nov. 3, 1939. No. 2,270,412.

Process for regenerating caustic alkali solutions—David L. Yabroff, Berkeley, and Ellis F. White, Albany, Calif., assignors to Shell Development Co. Filed Feb. 13, 1939. No. 2,270,491.

Gel-type metal oxide catalyst, and catalyst—Robert E. Burk and Everett C. Hughes, Cleveland, Ohio, assignors to Standard Oil Co. (Ohio) Filed Sept. 1, 1938, and Mar. 23, 1939. Nos. 2,270,503 and 2,270,504.

Compounded lubricating oil—Roland F. Bergstrom, Oakland, and Earl E. Phillips, Martinez, Calif., assignors to Shell Development Co. Filed May 31, 1940. No. 2,270,577.

Manufacture of lubricants—Ulric B. Bray, Palos Verdes Estates, Calif., assignor to Union Oil Co. (Calif.) Filed Aug. 2, 1937. No. 2,270,620.

Process of transferring heat—Vladimir L. Shipp, New York, and John Happel, Brooklyn, N. Y., assignors to Socony-Vacuum Oil Co. Filed May 22, 1940. No. 2,270,717.

PERCO

CATALYTIC DESULFURIZATION REDUCES TETRAETHYL LEAD REQUIREMENTS

• Perco Catalytic Desulfurization provides substantially complete removal of deleterious sulfur compounds.* The desulfurized stocks show greatly improved Tetraethyl Lead susceptibility as well as other advantages incidental to products of low sulfur content.

* Remember that Perco Catalytic Desulfurization not only removes so-called mercaptan sulfur, but many other deleterious sulfur compounds as well.

• The commercial units now in operation on various types of products are all making it possible for the refiner to meet octane requirements with considerable savings in Tetraethyl Lead.

• All inquiries regarding Perco Catalytic Desulfurization should be addressed to

PROCESSES ENGINEERING PERCO RESEARCH CONSTRUCTION

PERCO DIVISION

OF

PHILLIPS PETROLEUM COMPANY

BARTLESVILLE, OKLAHOMA

Abstracts from Current Literature

Standards on Copper and Copper Alloys

A new publication of the American Society for Testing Materials entitled "ASTM Standard on Copper and Copper Alloys", provides in convenient form for ready reference the various specifications and tests issued by the Society covering copper and copper base products. There are 73 standards covering a wide range of important products, many essential in the present war program.

* * *

Uses of Geophysics in War

Important uses of geophysics both in military operations and in the location of strategic and critical minerals are discussed in "Geophysics in War", the title of Vol. 37, No. 1, of the Colorado School of Mines Quarterly. The author is Dr. C. A. Heiland, professor of geophysics at the school.

* * *

Gas Pipeline Temperatures

Important data for pipeline engineers, on temperatures existing in natural gas pipelines, is contained in U. S. Bureau of Mines Report of Investigations 3590, entitled, "Temperatures of Natural-Gas Pipe Lines and Seasonal Variations on Underground Temperatures." It is shown that the temperature of the lines and the gas in them is essentially the same as the temperature of the ground at a depth corresponding to that of the center of the pipe, unless there are disturbing influences. The report was prepared by W. M. Deaton and E. M. Frost, Jr., of the Bureau's Amarillo, Texas, station.

INDEX TO ADVERTISERS

Refining Technology Section

(*See also page 55*)

This index is published as a convenience to the reader. Every care is taken to make it accurate, but National Petroleum News assumes no responsibility for errors or omissions

American Meter Co. .....

Badger & Sons Co., E. B. .....
Brooks Equipment & Mfg. Co. .....

Chicago Bridge & Iron Co. .....

Erie Bolt & Nut Co. R-64
Erie Enameling Co. .....

Filtrol Corp. .....

Gasoline Products Corp. .....
Graver Tank & Mfg. Co., Inc. .....

Hooker Electrochemical Co. .....

Jenkins Petroleum Process Co. .....
Johns-Manville Co. .....
Johnston & Jennings Co. .....

Kellogg Co., M. W. R-53
Kimble Glass Co. .....

Lummus Co. .....Insert Opp. R-56

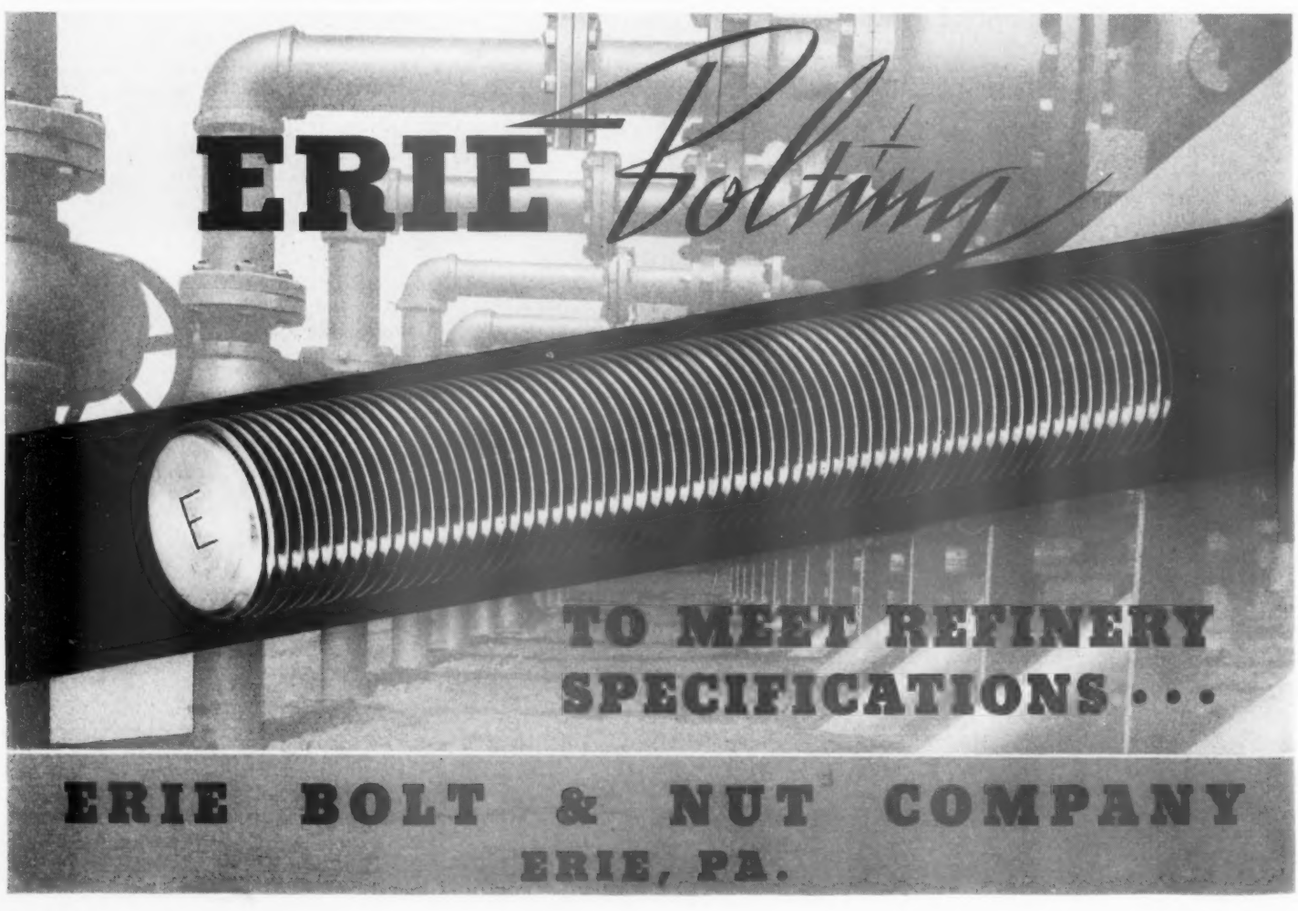
Merco Nordstrom Valve Co. .....

Perco Division, Phillips Petroleum Co. R-63
Petroleum Rectifying Co. of Calif. R-55
Phillips Petroleum Co. .....

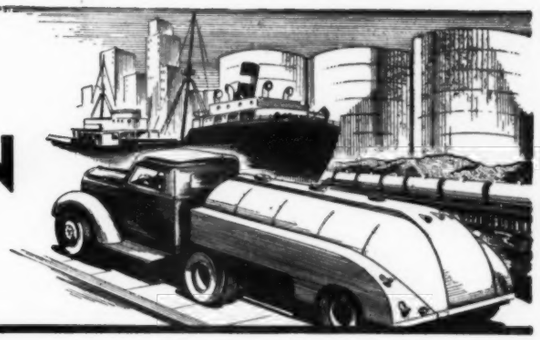
Shell Development Co. .....
Sun Shipbuilding & Dry Dock Co. R-59

Taylor Instrument Companies .....

Universal Oil Products R-61



OIL TRANSPORTATION



Teamwork of All Carriers Needed To Relieve Oil Transport Shortage

NPN News Bureau

WASHINGTON, Feb. 16—Coordinated emergency teamwork on the part of railroads, barge operators, trucks and pipelines to bring badly-needed crude and refined products into the heavily-industrialized East was being perfected last week, an informed source reported.

Emphasizing the extent to which emergency transportation is being employed to offset tanker diversions and sinkings along the strategic Gulf-East Coast shipping route, Office of Petroleum Co-ordinator reported on Feb. 14 that tank car shipments into the area during the week ending Feb. 7 shattered all previous records—reaching 222,975 bbls. daily, a 279% increase over movements in the week of Jan. 10.

Shipments Set Record

Previous record was set the week before when shipments averaged 164,700 bbls. daily. During the week ended Feb. 7, the 14 reporting companies loaded 6,935 cars for shipment into the area, compared with 5,125 cars in the week ending Jan. 31. This represented an average of 991 cars daily in the week of Feb. 7 and 732 cars daily the previous week.

Commenting on this unprecedented tank car movement, Deputy Co-ordinator Ralph K. Davies said it resulted from combining tank cars, pipelines, barges and motor trucks. Tank car movements, he said, are being speeded up with a reduction in transit time, more direct car routings, elimination of loading and unloading delays, and trucks are taking over the short hauls.

The 5 District committees, informed sources said, have been asked to study and recommend increased tank car movements with special attention to replacing tank cars with tank trucks for hauls within a 50-mi. radius of major unloading point.

Despite the sharp upward climb in tank car movements, one report stated that the supply of cars is not sufficient to meet orders for hauling from Southwest to East Coast.

These hauls, incidentally, are being made under emergency rates approved by the Interstate Commerce Commission early last fall, providing a 25% cut on refined products, except lubes and liquefied petroleum gasses, and 50% on crude.

Move 200,000 Barrels Daily

Assn. of American Railroads refused to make any comment at all about plans to increase tank car movements, and an official said the association did not wish to become involved in another tank car "squabble."

An official of the organization said the railroads are now moving 200,000 bbls. of oil daily into the East Coast, "and that is all we ever promised to do". (*See NPN Sept. 3, p. 5.*)

According to a usually well-informed source, the plan for co-ordinating petroleum transportation calls for short barge hauls with a quick "turn-around", probably going only as far as Memphis or St. Louis instead of to Cincinnati and Pittsburgh.

At Memphis or St. Louis, railroads would pick up the oil, instead of stretching their tank cars all the way from Texas, and move it into major distributing centers along the East Coast.

From there, tank trucks would fan out, replacing tank cars on short hauls. While it was reported that the District committees are working on plans for tank trucks to operate over 25-mile routes, it was said East Coast plans call for trucks to operate on 75-mile radii.

Result of these 3 moves would be short, fast hauls by each of the carriers.

In addition, Southeastern and Plantation Pipelines, little more than newspaper headlines in the "shortage" last summer, are now moving gasoline in the Southeast. A large number of tank cars are said to be in this area and can be transferred to other East Coast service.

One of the bigger worries facing rail transportation of petroleum products is the supply of tank cars for base stocks of 100-octane and synthetic rubber.

Because those base stocks require high-pressure cars, Office of Petroleum Co-ordinator plans eventually to convert about 300 insulated natural gasoline cars to iso-butane, butadiene and butane service.

To Convert 100 Tank Cars

It is reported that one tank car leasing company is prepared to convert 100 cars immediately upon receipt of authorizations from Interstate Commerce Commission for shippers to use converted natural gasoline cars to haul higher-pressure products.

Cost of converting an ICC 104 car—the insulated natural gasoline car—is several hundred dollars. Conversion is accomplished by removing the safety valve and replacing it with 2 safety valves of the type used on ICC 104A cars. Latter valves are set for 60 lbs. pressure. On a real 104A car, the valve is

The dome of a 104 car is replaced with one of the 104A

Build 155 Tankers in 1942 Is Program for U. S.

NPN News Bureau

WASHINGTON — Tanker construction program for 1942 calls for building of 155 vessels, of which 62 will be for the account of U. S. Maritime Commission and 93 for private account, according to information given to NPN by a Maritime Commission official. In 1941, a total of 32 tankers were completed in American shipyards. And for 1943, the program is for 113 tankers, of which 98 are for the Commission and 15 for private account.

Thus, present plans are for 300 tankers to be built in three years—1941, 1942 and 1943.

Much More Oil Is Expected to Move By Inland Waterway Routes in 1942

NPN News Bureau

NEW YORK, Feb. 16—Barges, one of the fastest growing means of petroleum transportation, will move nearly 200,000,000 bbls. of crude and refined products along the Mississippi Waterways System this year, American Petroleum Institute estimated last week.

Registering almost a 400% increase over 1933 movements which totaled less than 50,000,000 bbls., barges will help to relieve over-burdened railroads which can move some of their tank cars into service on East and West coasts to replace tankers whose movements have been made precarious by prowling submarines, A.P.I. said.

As part of the "spectacular" increase in water-borne petroleum shipments, river-side oil terminals in 1941 amounted to 252 at 135 points in 17 states, compared with 160 in 1939, according to Army Engineers, A.P.I. added.

Oil barges move from Gulf oil ports to New Orleans, up the Mississippi to the Missouri, Illinois, Tennessee, Cumberland, Ohio, Allegheny, Monongahela, and Kanawha rivers, some of it going 100 miles above Pittsburgh.

However, there is some talk of almost cutting in half these long barge shipments, stopping them at midway points like St. Louis and Memphis where the oil would be picked up by railroads and moved into the East Coast area. This would permit shorter runs and faster utilization of barges.

type. The insulation, usually felt, is replaced also.

Upon conversion, car is stenciled to show that it is for liquefied petroleum gas not exceeding 65 lbs. of gauge pressure at 105 degrees F.

The cars have to be tested to withstand 75 lbs. per square inch hydrostatic pressure, thus giving the car a 10-lb. safety margin.

With these measures, Government officials and oil companies hope to offset transportation losses suffered, in part, at the hands of German undersea raiders operating almost within sight of our Atlantic Coastline.

1000 Tank Cars Daily to Haul Crude From Southwest for Atlantic Refining

Special to NPN

PHILADELPHIA, Feb. 16.—First all-rail shipments of crude oil from the Southwest are being received here by Atlantic Refining Co. for its Point Breeze refinery. First shipments came from Louisiana and Mississippi. Largest volume, however, is expected from East Texas as soon as a 50-car loading rack is completed at Longview, Tex.

Atlantic Refining is preparing to put 1000 tank cars into crude service hauling 17,000 bbls. of oil daily from East Texas, Louisiana and Mississippi fields, according to announcement by Robert H. Colley, company president. Company's statement continued, as follows:

This rail movement of crude oil will involve handling an average of 85 cars daily at the Point Breeze refinery where an unloading rack and other facilities for receiving crude oil by rail were put in service last September during the oil emergency on the Eastern seaboard. The volume of crude scheduled to be received from the fields in the Southwest in the course of a month will equal that carried by two or more average tank ships, Mr. Colley pointed out.

Tankers Transferred

Most of the crude oil received by Atlantic in Philadelphia is brought by the company's fleet of tankers. One of these, the tanker, Francis E. Powell, was torpedoed off the Delaware capes two weeks ago. Others have been transferred to the Pacific Coast at the request of the government. The rail movement is intended to maintain a steady flow of crude to the company's principal refinery, despite these losses, and to build it up if possible, even though crude oil brought to Philadelphia by tank car costs very much more than crude oil carried by tank ship or pipe line.

The first shipments of oil from Louisiana and Mississippi already have been received and the shipments from East Texas are just getting under way. Under the schedule announced, 4000 barrels daily are to be shipped from Tinsley, Miss., and 3000 barrels daily from Neal, La. Twenty tank cars daily are expected to be received from the Mississippi shipping point and 15 cars daily from Louisiana.

The bulk of the volume will come from Long View, Tex., where loading facilities are now under construction. As soon as these are fully ready for use, 50 cars daily are expected to be loaded with crude for the Atlantic refinery here. The tank cars will make the round trip, under the present schedule, in an average of 15 days.

Moved Illinois Crude by Rail

Last autumn Atlantic brought in by tank car a total of 1,250,000 barrels of crude from the Illinois field at the rate of 10,000 barrels a day. The new movement from the fields in the Southwest will be nearly twice as large.

The company's handling facilities at the Point Breeze Refinery include an unloading rack, which accommodates two trainloads of 25 cars each, together with a collecting system and pumps to lift the incoming crude into storage tanks to await refining.

Pre-Assembling of Tankers To Speed Up Construction

NPN News Bureau

WASHINGTON, Feb. 16—Assembly-line mass production, borrowed from the automobile industry, may whittle down the construction time of tankers to five months, Rear Admiral Howard L. Vickery, vice-chairman of the Maritime Commission, said last week.

In a speech prepared for delivery before the Eighteenth Annual Iron and Steel Conference of the California State Chamber of Commerce at Del Monte, Calif., on Feb. 13, Admiral Vickery said use of the pre-assembly plan, where sections of the ship are assembled in the shop and merely joined together on the shipways, has advanced construction to a point far beyond "the fondest dreams of shipbuilders of 20 years ago".

He said a yard specializing in tanker construction (he did not name the yard) preassembles all of the primary portions of the ship and has substantially reduced the time required for construction of the sub-assembly through use of automatic welding machines.

"A degree of proficiency has been reached," he said, "which permits the building of a tanker from keel laying to delivery in 7 months and may, as their familiarity with the new facilities increases, be reduced to 6 and possibly 5 months."

When President Roosevelt outlined an 18,000,000 dwt shipbuilding program for 1942 and 1943, Admiral Vickery added, the Commission realized it could not build new facilities in time to meet that construction schedule. It therefore became necessary to find means of building the 1800 new ships involved on existing ways.

Shortcuts have been devised, he said, to reduce construction time of the Liberty Ships to 105 days from keel laying to delivery—an all-time world record. Previous estimates had placed the ship on the ways for longer than 105 days.

But this record can be established only if sufficient steel is available, he warned, disclosing that the 18,000,000 dwt program calls for 6,500,000 tons of steel.

Plantation Line Makes Initial Test Run

NEW YORK, Feb. 16—Plantation Pipeline, longest ever constructed for refined products, completed its initial test run through the main line when 25,000 bbls. of gasoline were delivered today at Greensboro, N. C., northern terminus of the line which begins at Baton Rouge, La., according to word received here.

Plantation Pipeline Co. said, however, that additional tests are necessary before the line, to be dedicated in March, can be placed in full operation.

With lateral lines serving Alabama, Georgia and Tennessee points, more than 1261 miles of pipe ranging from 12-in. down to 4-in. have been laid since last August.

Pipe line will free a number of tankers and barges which formerly supplied the area with 89% of its gasoline.

Initial operation started Jan. 1 and first test delivery was made at Meridian, Miss., Jan. 22.

Speed Tank Car Movement Refiners Urge Customers

NPN News Bureau

CHICAGO, Feb. 16—Pressed by tank car companies to speed up the movement of cars, some Mid-Continent refiners are urging upon their customers the necessity for prompt unloading.

Typical of the action taken by refiners, one company warned its customers that it is possible that customers who continue to receive tank car deliveries will be those who make the most efficient use of the equipment.

In order to expedite tank car handling, the company has asked these questions of its customers:

"First, with respect to the unloading of the equipment and the storage facilities available:

"What is the storage capacity at your plant?

"Can the storage capacity be increased?

"At the time a car arrives do you always have sufficient storage so that the equipment can be unloaded immediately?

"Have you adopted the practice of unloading cars promptly upon the day of arrival whether that day be a Saturday, Sunday or Holiday?

"Is the railroad notified immediately when empty car is available for return movement and is the return bill of lading promptly executed?

"Second, with respect to switching service extended your plant:

"Are cars placed promptly upon arrival for unloading and picked up promptly when empty?

"Is switching service extended your plant every day of the week, including Sundays and Holidays?"

Asks Truckers to Complete Answers to Questionnaire

NPN News Bureau

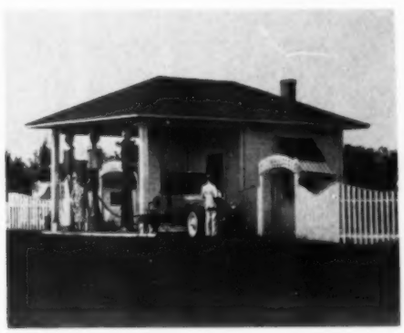
WASHINGTON, Feb. 16—Early completion of the War Department's truck and bus inventory is urgent because of war conditions, and truckers who have not filled out their questionnaires may be visited by police chiefs, motor-vehicle inspectors or other local officials to help them fill out the forms, Public Roads Administration said last week.

The inventory, being made by the agency for the Army, is about 80% complete and "an intensified campaign is now underway to complete" it.

General view of the Williams Oil Co. station and office located on spot where original station was formerly located

Oil Management and War

What One Independent Jobber is Doing To Protect His Business During Wartime



Original station of Williams Oil Co. in Whiteland, Ind., in 1925. Cash on hand first day, $6.49. Liabilities, a hefty note at the bank. Today the company has a bank of its own as "sideline"

EVERY morning at 5:30, Marley H. Williams, independent Gulf jobber in Whiteland, Ind., goes to his office and prepares his "war strategy chart" for that day's operation. Formerly he worked on a 6 months timetable, and occasionally allowed himself the luxury of getting home by 8 p. m. But not any more.

For Marley Williams is confident that the future of the independent jobber is bright—provided the jobber isn't too fond of leisure; isn't "set in his ways"; can forget how things used to be and adjusts himself to the way things are today. Marley is doing just that. And he is getting by quite well.

Independent oil jobbers suffering with wartime blues could profitably spend a day in Whiteland with Marley Williams. The town is a nice clean little place about 15 miles south of Indianapolis on Route 31.

There is plenty to learn from this independent jobber as to how he is adjusting his operations to meet today's conditions.

The visitor will learn—between interruptions caused by Marley's activities in connection with the draft registration board, the local defense council of which he is head, the operation of his local finance concern, his subdivision development and a few other activities—that this successful oil jobbing business was started in 1925 with $6.49 in cash, and a small frame serv-

Part of the home and auto accessory stock sold by Williams Oil Co. Jobber Williams believes that as priorities knock out one item there will be another to take its place

Interior of the Bargersville station of Williams Oil Co., showing merchandising displays. Lubrication jobs average 1¼ per 100 gal. of gasoline. Wayne Poole is the dealer

O. L. WARD'S SERVICE STATION, Effingham, South Carolina.

THOMPSON OIL COMPANY'S Bulk Plant, Olanta, S. C.

Farm revival brings increase
Sinclair distributor in South

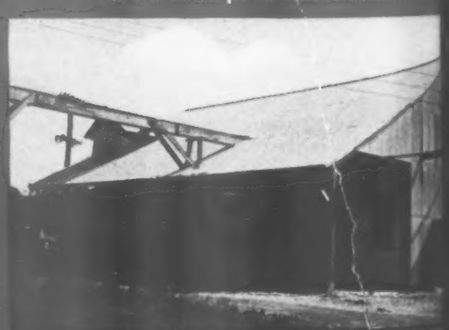
THOMPSON OIL COMPANY—trucks and drivers.

F. L. FLOWER'S Station, Scranton, South Carolina.

OLANTA MERCANTILE CO., d
goods, grocery and hardware. M
J. M. Thompson is President.

J. Z. LYNCH'S STATION, Coward, S. C.
Mr. Lynch numbers among his steady customers 6 school buses and 2 mail carriers.

McELVEEN MOTOR CO., Pontiac dealers.



BAKER-THOMPSON Cotton Gin Company in which Mr. Thompson is a partner.

For full particulars about the value of a Sinclair franchise, write the Sinclair office nearest you.

SINCLAIR

SINCLAIR REFINING COMPANY (Inc.) 630 Fifth Avenue, New York, N. Y.

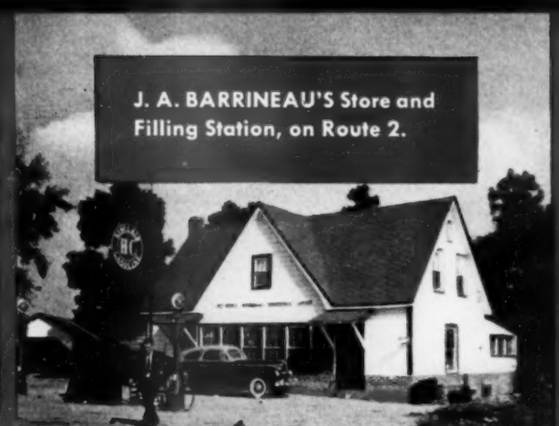
2540 W. Cermak Rd. CHICAGO | 573 W. Peachtree St. ATLANTA | Rialto Bldg. KANSAS CITY | Fair Building FT. WORTH | 10 W. 51st St. NEW YORK

LIVINGSTON'S Garage, Lake City, S. C.

•

CASHWELL'S Lunch and Filling Station, Lake City, S. C.

C. E. COKER Service Station, Turbeville, S. C.



J. A. BARRINEAU'S Store and Filling Station, on Route 2.

W. D. BROWN'S Station, Lake City, S. C.

...eprofits to ...thCarolina

MR. J. M. THOMPSON.

J. M. THOMPSON, President and Manager

R. M. THOMPSON, Secretary and Treasurer

THOMPSON MERCANTILE COMPANY

DEPARTMENT STORE

HARDWARE, FURNITURE, DRY GOODS, GROCERIES

OLANTA, S. C.

November 10, 1941

Mr. H. D. Kline
Manager, Southeastern District
Sinclair Refining Company
Atlanta, Ga.

Dear Mr. Kline:

I thought you would be interested to know that Sinclair volume has increased here about 40% since I took over the local sale of your products 3½ years ago. A good share of my increase comes from the agricultural revival that has been going on here. A number of farmers have been putting on tractors to better handle larger crops and as we have the biggest farm business in the country we have fortunately obtained much of this increased gallonage. Another new rural source of business is the tobacco grower who has been burning fuel oil or kerosene instead of wood for curing tobacco in the tobacco barns.

When I took over your local distribution I felt that oil would be a good balance for my other local business interests which are the Thompson Mercantile Company and the Baker-Thompson Cotton Gin Company. Time has proved this to be correct as the Sinclair distributorship here is developing into a more and more valuable and profitable franchise.

Since I have been distributor here I have built a new bulk plant, which also shows that my business has expanded. Another indication is the fact that I have added a good number of new dealer accounts.

Sinclair products are certainly well known and favorably known all through the South. Your excellent distribution in neighboring areas plus your national advertising have helped me very much in building my own distribution here. These things have helped me in selling farmers and in selling dealers. And Sinclair quality has kept them sold. Incidentally more and more of my dealers are picking up business from your credit card holders who drive through my territory.

Barring unforeseen circumstances I believe we can look forward to still more profitable business relations in years to come.

Very truly yours,

J. M. Thompson

Palmetto tree, the famous state symbol of South Carolina

ice station with 2 outside rest rooms. Stock consisted of 125 gal. of gasoline, a couple of half-drums of motor oil. Equipment consisted of some tire changing tools and not much else. For his partner, young Williams had his father, Joseph C. Williams, now retired. On the liability side of the ledger was a healthy note at the bank.

Major oil company supplying this station with gasoline must have sensed that young Williams had something on the ball. At any rate, in 1930, when there were 6 men for every job, they asked him to take a position as territorial salesman. He accepted the position, leaving his father to run the station. He later became station supervisor and a merchandiser selling his company's complete line to Indiana stations. By 1935 the original Wiliams station had been replaced with a modern super service type, and another station had been built at nearby Bargersville.

With these 2 stations as a beginning Mr. Williams decided to go into the jobbing business on his own. His oil company experience had developed some ideas regarding jobber operations which he believed would result in success if followed.

One of these plans was to get maximum business from a few stations rather than attempting to establish a lot of outlets merely for "representation"; and to do a complete management job on all established outlets before taking on any new accounts.

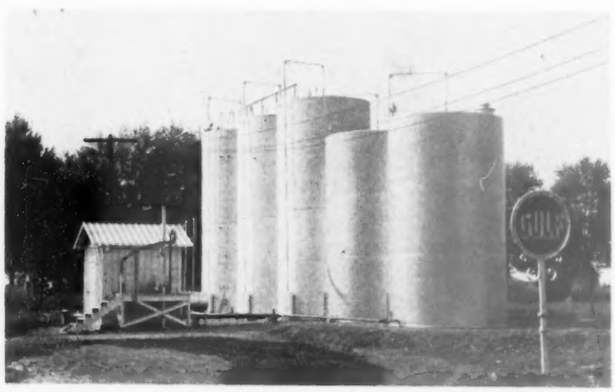
Marley H. Williams

As a result of this policy, this jobber's station operations to-day consist of only 5 stations in Johnson County, in addition to farm business. *But the business of the Williams Oil Co. amounts to as much in this county as that produced in the adjoining county by another company with 40 dealer outlets.*

During no time of the company's operations has it gone in the red any month. In 1941 the company had more than 12% gain on gasoline and better than 15% on motor oil. In January, 1942, gains over previous year ran as high as 64% in one station, 53% in another, *and a slight loss in a couple of stations.*

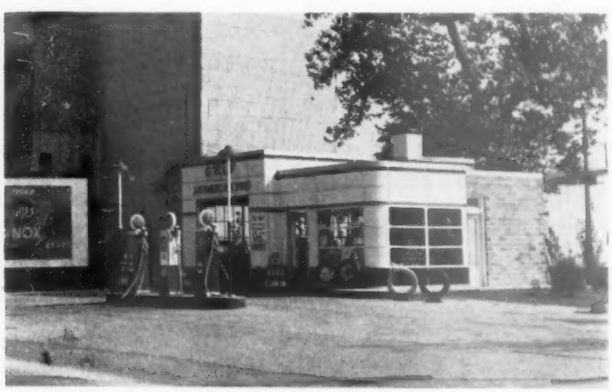
But Mr. Williams is not concerned about these losses. He knows the causes and how to correct them. In fact, he more or less invited the losses by using these stations as a laboratory to see the effect of *not* selling allied merchandise with oil and gasoline and *not* giving them personalized sales supervision.

About 6 months ago when the tire supplier, for whom Mr. Williams is distributor, announced its home and auto accessory program these 2 dealer stations for reasons of their own chose not to adopt the plan except in a limited way. All of the stations are on a leased basis so this decision was up to the operators. In the other 3 stations, however, Mr. Williams placed a complete auto and home accessory program. The line consists of around 600 items including Radios, electrical goods, lamps, tools, horns, flashlights, gloves, toys, bicycles, mixers, rubber goods, clocks, wiping cloths, as well as all car accessories, such as plugs, fan belts, filters, batteries and cables, household specialties, such as home lubricants, paraffine wax, polish, brake fluid, friction tape, gasket cement and sun glasses. Supply cabinets, designed by the supplier, were



Whiteland, Ind., bulk plant of Williams Oil Co. All deliveries are metered both in and out of this 70,000-gal. plant. Plant is protected by wire fence

Bargersville service station of Williams Oil Co. To the right is the operator's home, built by the company. Inside is a "trading blackboard" where farmers list items they want to sell



Franklin, Ind., station of Williams Oil Co. Company has never failed to produce a 3% or better oil ratio

Greenwood, Ind., station of Williams Oil Co. All company stations are equipped with latest equipment for modern service

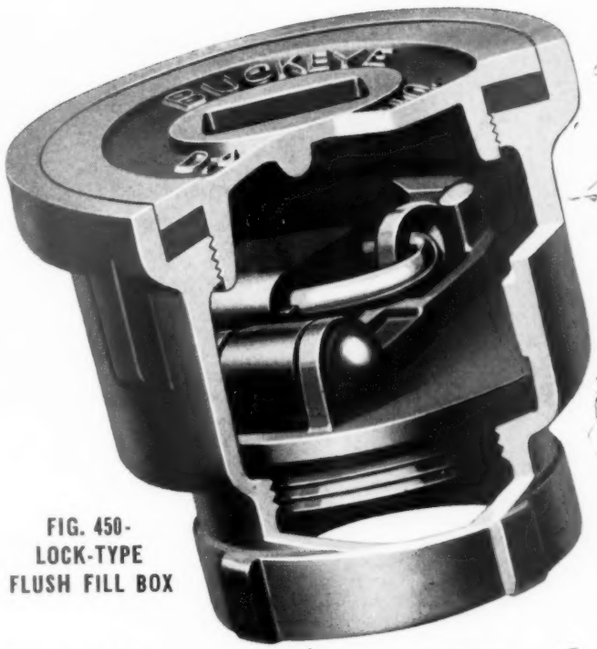


FIG. 450-
LOCK-TYPE
FLUSH FILL BOX

Water-Tight

In these times, conservation of *all* service station equipment is essential. An inexpensive way to protect your dispensing pumps is to keep water out of your underground tanks. This is done by using Buckeye *Water-Tight* Fill Boxes and Fill Caps. Thus your pumping units, meters, and *all* moving parts are protected against the ravages of water—which dangers are especially prevalent in freezing weather. This protection is all important because gasoline tends to *lubricate* while water *corrodes*.

All these fittings not only meet the above requirements but they are designed and built to last. The threads on the bodies and lids are clean cut with "pilots" on the lids making them easy to start, thus preventing the stripping of threads. On the quick-opening type only a one-eighth turn is necessary to make the lids water-tight.

Where the fill pipe extends above the ground, we have inexpensive, vented, iron caps for this type of installation.

BUCKEYE IRON & BRASS WORKS • 356 East Third St., Dayton, Ohio
1203 Santa Fe Building, Dallas, Texas • Distributors in all Principal Cities

The COMPLETE *Buckeye Line of Valves and Fittings for service stations and bulk plants is known and used all over the country. It is fully described in our Catalog No. 11. Write for your free copy* TODAY.

Buckeye
QUALITY FITTINGS

FIG. 452-PLAIN FLUSH FILL BOX

FIG. 632-FILL CAP

VENTED

FIG. 628-FILL CAP

installed in the stations and an installment selling plan (10% down, balance in a year) worked out.

The accessory program was first put into operation at Whiteland station and supervision of its operation was personally handled by Mr. Williams. After it was going good in that station, it was extended to the 2 additional stations. According to Mr. Williams, revenue from this additional line for first 4 months offset the revenue from tires by a ratio of 3 to 1.

In getting the program going, and going right, Mr. Williams admits that there was a let-down in his usual close supervision and co-operation with the stations not included in the program. Now the program calls for the extension of the line to all stations. Mr. Williams is convinced more than ever that close supervision is an absolute necessity for successful station operation.

Mr. Williams says that his guess is as good as any as to how long he will be able to get these supplies. But he points out that there has been something to barter since the beginning of time. And as shortages develop on certain items, he believes that the ingenuity of manufacturers will develop something else to take its place. He pointed as an example to baked enamel fog lights which had already replaced his original stock of chrome lights. Synthetic sponges to wash cars have already replaced the deep sea product. But the new ones sell just as readily. The work gloves are made of some non-essential material instead of leather.

Might Handle Groceries

Not yet started on a real basis, but nevertheless in the experimental stage is the selling of groceries. The plan is for the truck driver to take orders for delivery on next trip, for whatever groceries the farmers on the route may need. These orders are to be consolidated and purchased from a wholesale grocery, delivered to the plant, and redistributed to the customers. The average mark-up is about 20%. This type of delivery necessitates slight remodeling of the truck. Biggest objection is the creation of ill feeling with retail grocery stores. But the plan is being seriously considered; in fact is already being done, on an accommodation basis. As yet, no plan has been developed for bringing in produce and other farm products. But that, too, is under consideration.

Runs Finance Company

Already in operation, and actually part of the operations of the company is a personal loan business. This is perhaps the only *licensed* small loan company in operation anywhere as part of an oil jobbing company. There is no bank in Whiteland, very few places to get a check cashed. To accommodate farmers and others in need of small loans, up to $300, Mr. Williams organized the Whiteland Loan Co. which is under the supervision of the banking department of the state. This has been in operation for more than a year and has proved extremely profitable. Most of the money is loaned on a personal note with no security. Farmers and others in need of a quick, small loan, sign a note, and have from 1 to 18 months to pay the money back, at legal interest. The customers are all known. There has never been a loss, and the business could in no sense come under the "loan shark" category. This business has been profitable. A large cash fund is always on hand for the cashing of personal or payroll checks. No charge is made for this service. But there is seldom a check cashed without the owner spending some money in the station.

Service and Merchandising

Lending money and cashing checks are only a few of the services of the Williams Oil Co. For instance, in the Bogersville station, a strictly country operation, there is a large trading blackboard. This board is arranged so that those who look at it must go in the station, walk by the complete line of accessories on display. On this board the visitors write down anything they might have for sale, or want to buy or trade. Here are a few samples on the day the writer visited this station:

For sale—Baby bassinette; legs attached. See Joe Burnetts.

Farm for sale—see Homer McCoy.

Corn, ear shelled—Frisbie Sanders.

Horse and cow for trade—see John McCloskey.

Farmers for miles around come into this community and make a bee-line for the station to see what is going on in the "swapping line". Mr. Williams estimates that several thousand dollars a month is represented in trades originating at this "trading blackboard".

No finer service can be found anywhere than is given at the Williams stations. Stations are kept clean. Restrooms are as modern and clean as possible; are inspected frequently, usually immediately after they are used. Stations are fluorescently lighted, equipped with the last word in lubrication equipment. They operate on the regular station commission arrangement, with the exception of accessories. These are placed in the stations by Mr. Williams, on a 50-50 basis.

Truck Owned by Driver

The company operates only 1 truck. It is 1½ ton, 4 compartment, 800 gal. capacity. Some time ago it was sold to the driver who operates it on a commission basis. Nothing but full dumps are delivered to the stations, and the rate of commission varies according to the distance of the station. For the Whiteland station, about 2 blocks away, the rate is .2c per gallon. Others run as high as 1c. Farm business gives the driver a commission of the difference between the tank wagon price and the farm market price, which is the same as the service station price. Oils and greases average about 10%.

Formerly 3 trucks were operated, but by eliminating small dump accounts and working out a routing system and putting in larger farm storage, 2 of these trucks were done away with. As better than 40,000 gal. a month is delivered by this truck each month over country routes, a "keep 'em rolling" program is necessarily in operation. This includes daily inspection of the tires, frequent oil changes and lubrication jobs, wheel balancing and careful driving on the route.

At one time there were 7 company employes in addition to the commission men. Today there is only one, an office girl who does the bookkeep-

Office of the Williams Oil Co., independent Gulf jobber in Whiteland, Ind. In foreground is Mrs. Williams, office manager, and to the right, Mrs. Rose Marie Huntsman, bookkeeper

"Loretta Young and 708 other movie stars sent me!"

It's a fact, too . . .

The biggest, brightest stars in Hollywood—709 of 'em—are sending customers by the thousands to Good Gulf dealers everywhere!

Yes, and Movieland's ace writers, directors, production men are doing their part, too—to help *build profits* for *every* Good Gulf dealer!

How? On the Gulf Screen Guild Theatre, of course—the sensational Sunday evening radio show with the biggest, grandest cast of stars in entertainment history!

No other show on earth boasts such a selection of talent. That's why Gulf's Screen Guild Theatre is a *smash hit*, this week and every week—not only in sparkling radio entertainment, but in good old, down-to-earth *sell!* It's a *real* radio show—doing a *real* job for *real* people!

Gulf's Screen Guild Theatre—and the Gulf reputation for quality products and services—are helping to make the Gulf franchise more and more valuable and profitable. Better investigate!

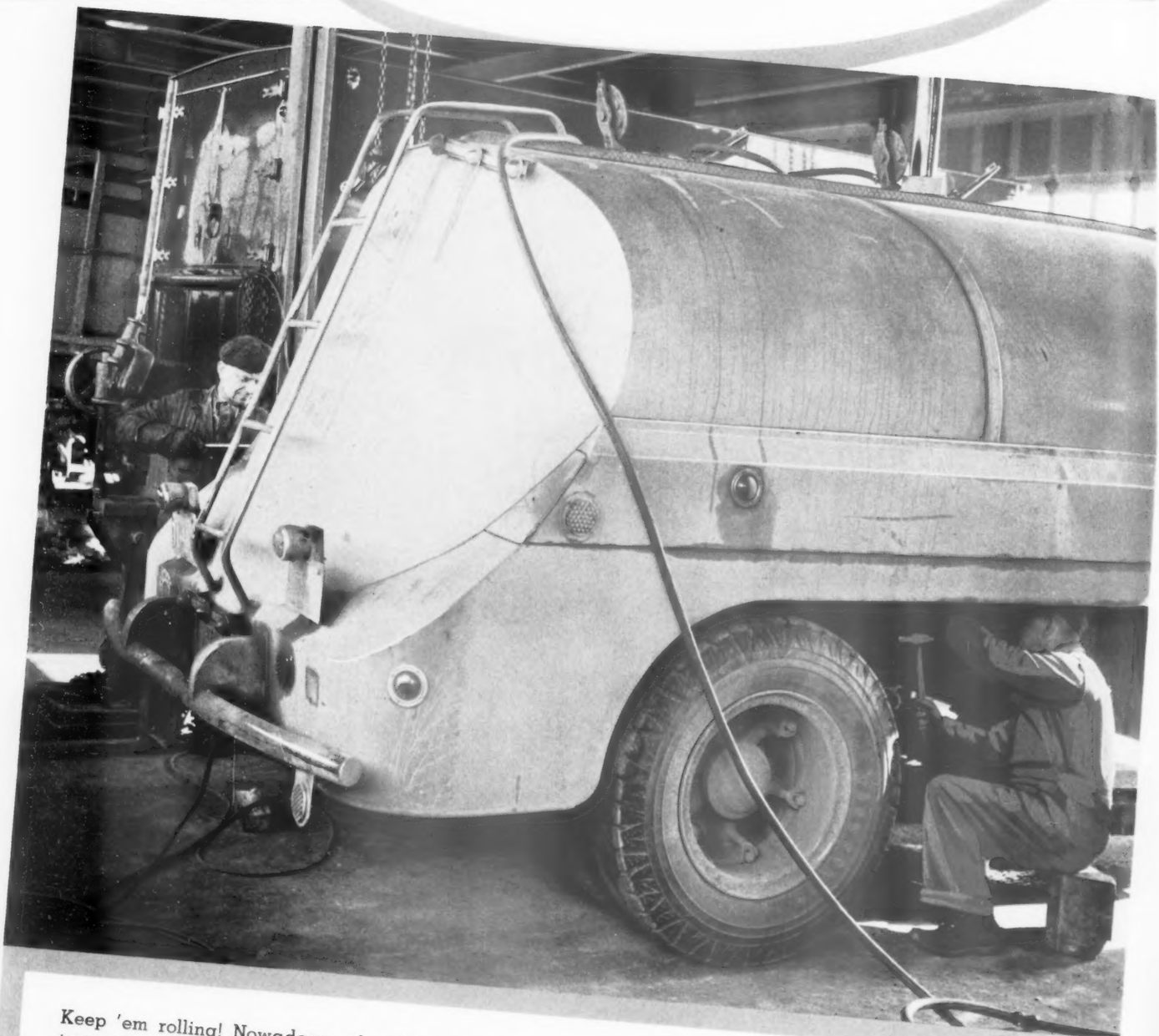
GULF

Gulf Screen Guild Theatre

"The season's great radio show"

EVERY SUN. NIGHT 7:30 E.S.T. Columbia Chain

Here's ONE THING -



Keep 'em rolling! Nowadays, when it's more than just good business to keep your transport equipment busy . . producing as much and as long as possible . . Fruehauf service facilities become still more important to you. A Fruehauf Tank-Trailer needs a minimum of attention, but when it does require service, you can get it at any of the more than fifty strategically located service stations, one of which is pictured. Complete parts stocks available, too. It's the only nation-wide Trailer service organization!

TRUCK-TRAILER TRANSPORT IS DOING
AN ESSENTIAL JOB FOR ALL AMERICA

You Needn't Worry About!

● *If you are a Fruehauf owner,* there's at least one thing you needn't worry about these days. It's your Tank-Trailers!

When you made Fruehaufs your choice, you did so for a number of reasons—you believed they pulled easier, stood up better, lasted longer.

And in these days of equipment shortages and increasing costs, you're going to collect many extra dividends on your investment in these Fruehauf qualities.

More than that, though, if you own Fruehaufs you needn't worry about your Trailers becoming "orphans."

You needn't worry, either, about the treatment you'll continue to receive from the company behind them.

And, above all, you needn't worry about keeping your Trailers on the road. There's a nation-wide chain of Fruehauf service stations to relieve you of that responsibility.

Yes, you are going to collect extra dividends on the choice you made. And we are going to have the deep satisfaction of knowing that the confidence you put in us and our product was not misplaced.

World's Largest Builders of Truck-Trailers

FRUEHAUF TRAILER COMPANY

DETROIT, MICHIGAN

Sales and Service in Principal Cities

The presentation, "America's Answer — Production," made to OPM and other government agencies in a successful endeavor to get proper recognition for Truck-Trailer transport, has been reproduced by Fruehauf in book form. Much of the material in it will likely be helpful to you. A copy will be sent without charge upon request to your Fruehauf branch or to the Fruehauf factory in Detroit.

FRUEHAUF TRAILERS

FRUEHAUF TRAILERS

"ENGINEERED TRANSPORTATION"

Reg. U. S. Pat. Off.

GET

WAR OIL ORDERS IN . . . OIL-Law-GRAM

• This service prints the FULL TEXTS of ALL WAR OIL ORDERS affecting the oil industry, directly or indirectly. OIL-Law-GRAM subscribers receive these texts generally within 36 hours after they are issued.

FREE!

You can get a trial 2 weeks' subscription FREE OF CHARGE. YOU alone judge its value to your business.

Write us TODAY!

Platt's

OIL-Law-GRAM

513 Penton Building Cleveland, Ohio

ing for the oil company, the finance company and the real estate development. By changing from salary to commission plan on all operations those working for the company have a greater incentive to work. There are no payroll records to worry about.

Even the salaries of Williams himself and Mrs. Williams, who works full time in the office, were eliminated some time ago. Whatever money is required for living and other expenses is drawn and charged to the personal account of Mr. Williams. The corporation was dissolved some time ago, to further reduce record keeping. Three complete sets of books are kept; one for the oil business, one for the finance company and one for the real estate development. The books are audited twice a year by an outside firm.

The profits of the operation are plowed back in the business. Plans for further physical expansion of the oil business were in the blueprint stage when war came. This included still further modernization of the stations, the building of truckers barracks and additional outlets. This, of course, is being held in abeyance in the company's "war-chest".

Real Estate Development

Primarily Mr. Williams is an oil man. He expects to build up his oil business until he retires and turns it over to his son, now 12 years old. But while the war is holding back further expansion of the oil business, a real estate proposition is being developed to provide means for further expansion of the oil business when things get "right".

Mr. Williams purchased 14 acres of land across the road from his Whiteland station and office laid it out into a subdivision of 44 lots. Nine beautiful homes have already been built on these lots.

Mr. Williams' early training as an oil company supervisor has taught him the value of making all possible use of the company's advertising. Every piece of advertising furnished by the company is personally delivered by Marley Williams. It is almost impossible to tell his own stations from a Gulf salary-operated station. The same technique used by the supplier in decorating windows and making outside displays will be found at all Williams Oil Co. outlets. All of the business building programs supplied by the company are completely "sold" to the operators by means of personal contacts, use of the telephone and at least 2 sales letters a month to every one connected with the organization.

Uses Sales Letters

These sales letters are all written by Mr. Williams. He writes these letters just as though he was talking to the operators. Some are long, others short, depending on circumstances. Many of them include extracts from books, trade papers and general merchandising information picked up here and there. Information contained in articles published by NPN has long been a part of the sales letter campaign. Here are a few extracts from a typical letter:

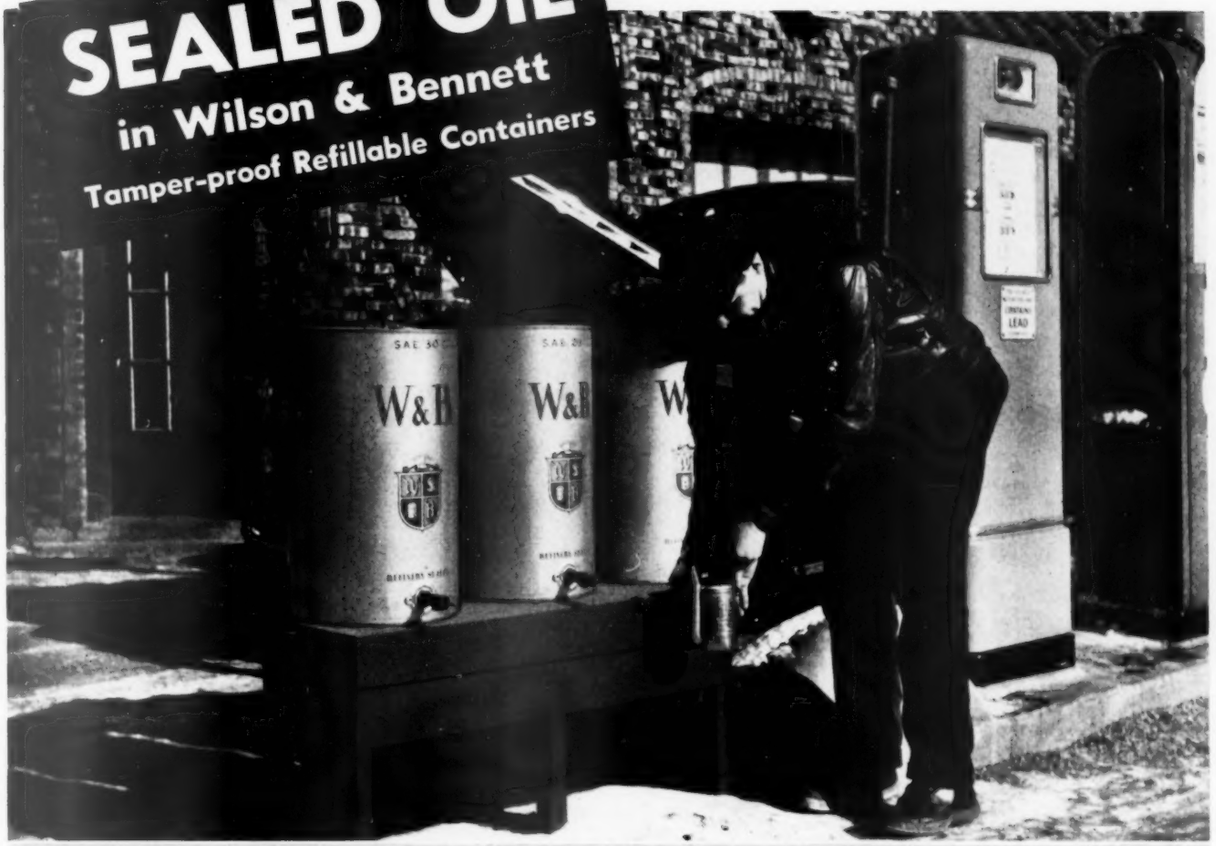
"We're in a wartime economy. America is on a war economy basis—a mechanical war economy basis. We might as well get down and face things squarely and pull no punches; there will be no business as usual. There will be many inconveniences; yes annoyances, but we are in the war and we must prosecute it to a victory which may come only after several years of concerted effort—SERVICE is our best bet, despite car dealer competition—in the past we have given you a program that would go for at least 6 months. From now on we will have it from day to day. Perhaps you would like to rate yourself as to how good a salesman you are. It is easy. There are 25 signs of the master salesman. Simply allow yourself 4 points of each of the signs which point your direction. Add them up and you have the answer. If you want to double-check, have a friend do the rating. The signs are:

Signs of Master Salesman

"1. Approach is positive.
2. He always knows the buyers needs.
3. He wants orders, first and last.
4. He knows he is not invincible.
5. He never relies on "pull".

Another "sideline" of Williams Oil Co. A 14-acre real estate subdivision with 44 lots

SEALED OIL
in Wilson & Bennett
Tamper-proof Refillable Containers



A NEW kind of sealed oil protection is offered in the Wilson & Bennett 15-gallon dispenser drum. Here is a tamper-proof protection against bootleg oil — a protection that motorists have learned to demand. In addition, the use of this refillable sealed dispenser effects an economy in container metal that is in line with the present effort to conserve steel.

One of the new Sealed Oil Dispensers is pictured here. The container is refillable only by the truck salesman through the top opening, which is then sealed conspicuously. All the advantages of "sealed oil" are thereby maintained with a substantial savings in steel.

This 15-gallon container has the same proportions and general appearance as the usual quart oil container. Regular label designs in colors can be lithographed in full size. Three containers are placed together to provide a handsome display for three grades of oil.

Filling opening is sealed by the truck salesman after each refilling.

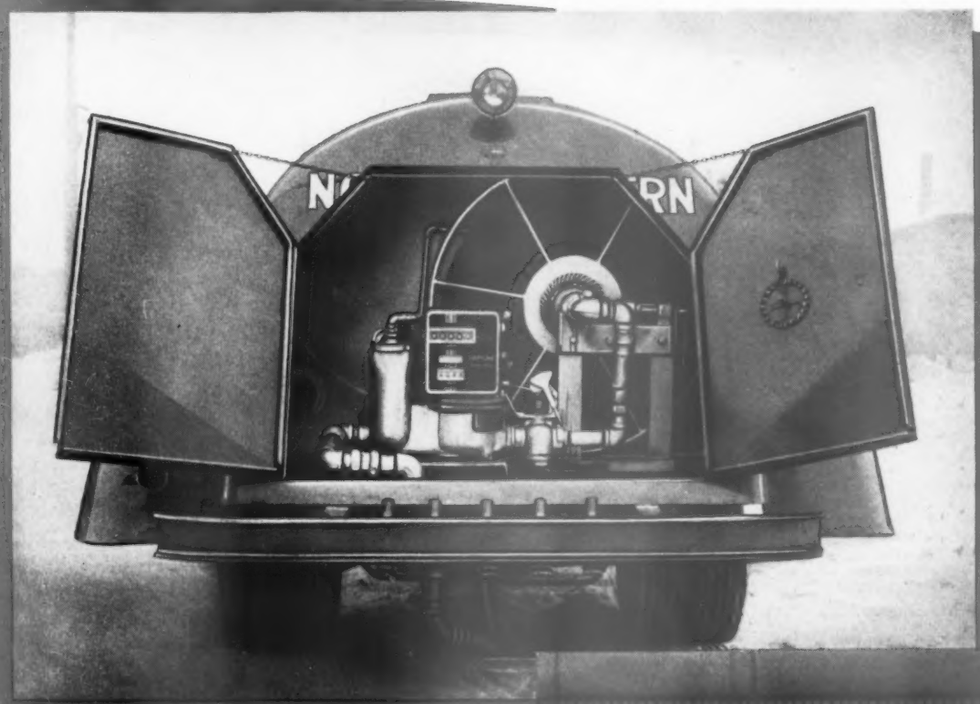
Regular label design lithographed full size in colors.

Faucet in place and sealed for permanent use.

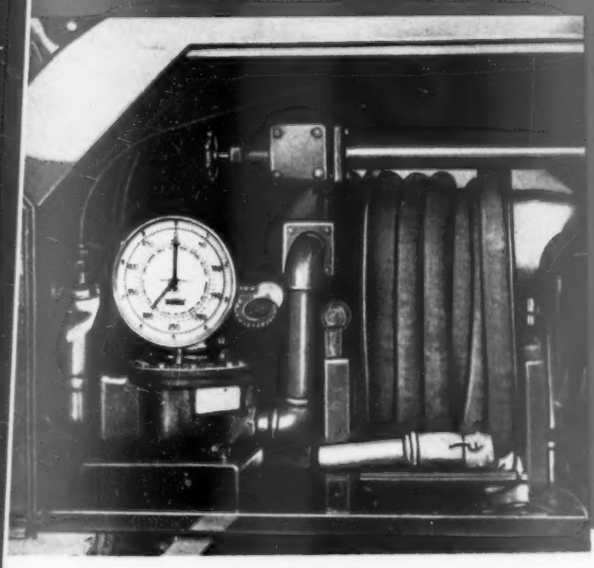
Write for complete details

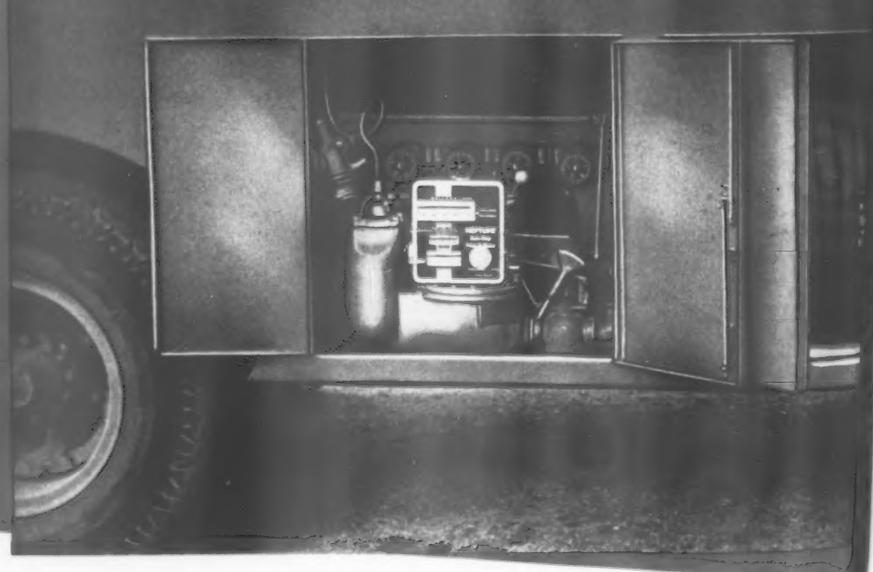
WILSON & BENNETT MANUFACTURING CO., CHICAGO, ILL.
Subsidiary of Inland Steel Company
Plants at Chicago, Jersey City and New Orleans • Warehouses in all principal cities
Makers of Steel Drums and Pails

Get more out of



RED SEAL Auto-Stop Compact Meters with Print-O-Meter Registers complete the modernized equipment on the delivery tank trucks of these two oil companies: (at left) Northwestern Oil Company, of Superior, Wis.; (below) Eureka Oil Company, of Kansas City, Mo.

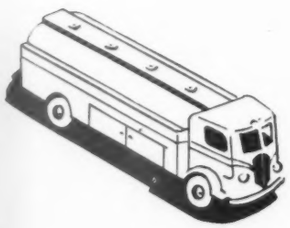




Pan-American Airways runs up productive mileage on Heil-built trucks equipped with RED SEAL Compact Meters with Round Dial Registers.

NEPTUNE RED

your TANK TRUCKS



...by increasing PRODUCTIVE mileage

You must get the *most* out of your trucks if you are to cope successfully with the present emergency. To step up productive mileage, it is necessary to:

—have trucks work more miles and hours per day;
—carry largest possible loads;
—make large dumps;
—load and unload fast;
—be routed to best advantage on delivery schedules;
—conserve gallonage by accurate measurement;
—eliminate spillage losses.

Metering Is a Vital Factor

Increased truck efficiency must make up for any lack in fleet size. A company, after installing up-to-date delivery equipment (including meters) on its trucks, reported handling 75% more gallonage! Another, operating six fuel-oil trucks, admitted that without meters he would need three additional trucks to serve his customers.

It has been abundantly proved that three or four meter-equipped delivery trucks will do the work of at least five unmetered trucks.

Certain types of combination-delivery trucks can use *several* meters on a truck to advantage. Neptune cooperates with truck-builders and users in recommending the appropriate type of meter for any service, and the correct piping design—important to any meter installation.

To Gain Bigger Payload

Metering is based on the logical principle of accurate measurement of the *product* handled instead of measurement of the *container*. A metered truck therefore can do with fewer tank compartments—effecting a saving in bulkheads, weight and payload space.

Neptune meters such as the Red Seal Compact Type (a combined unit of meter, strainer, air release and back pressure valve within a single housing) were developed expressly to save valuable payload space and weight. The Compact was designed at the suggestion and with the cooperation of oil companies themselves, to help insure the largest income-producing truck load feasible. Popular favorites include the 1¼" Compact meter, particularly recommended for range oil and domestic heating oil service on trucks up to 800 gallons capacity; the 2" Compact, very widely used by fuel-oil trucks of greater capacities; and the fast 3" Compact for gasoline delivery by gravity.

Split-Compartment Dumps Help

To increase the size of dump today, it is not enough to "educate" the customer to accept a larger individual delivery. Every effort should be extended to make it more convenient and practical for him to do so.

The flexibility permitted by metered deliveries—whereby the maximum gallonage accepted can be delivered in any split-compartment quantity (over and above a compartment dump, for instance)—is virtually indispensable. A meter-equipped truck can deliver all that the customer's tank will take.

In fuel-oil delivery, the highly efficient "degree day" system has been made possible only by metered split-compartment dumps. Metered trucks likewise have increased the average size of dump for supply-and-demand deliveries.

"We purchased a Neptune (Red Seal) Auto-Stop meter for our fuel-oil delivery truck," writes a representative meter user; "... so pleased with the results that we purchased another meter for our truck that delivers gasoline in the city. Especially on a busy day is this meter appreciated!"

NOTE: Other vitally important advantages of metering and their relation to productive mileage, will be discussed later. These subjects also are covered in Red Seal General Petroleum Catalog No. 591 and in the Red Seal Fuel-Oil Merchandising Plan.

NEPTUNE METER COMPANY: *Main Office, 50 W. 50th St., New York. Branches at Atlanta, Boston, Chicago, Dallas, Denver, Kansas City (Mo.), Los Angeles, Louisville, Philadelphia, Portland (Ore.), San Francisco, and Long Branch, Ont. (near Toronto).*

RED SEAL METERS

Gasoline Dispensing Pumps • Meters for: Barge and Tank Car Unloadings • Storage Transfers • Loading Racks • Tank Trucks

NEPTUNE RED SEAL METER CO.

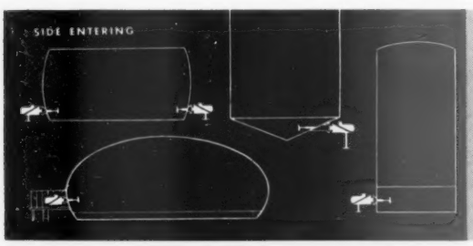
Metering Pays
CONTROL • SAVE • PROFIT
by Meter Audit

1810

CAN YOU MEET ANY GASOLINE BLENDING PROBLEM PUT UP TO YOU?

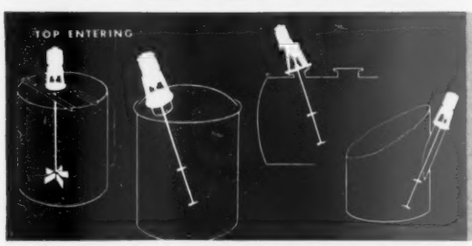
Whatever your blending or mixing problem—regardless of the product or the quantity, whether gasoline, lube oil, cutting oils, anti-freeze solutions, etc., or what,—you can meet it with a "LIGHTNIN" Mixer. You don't need any special tanks for a "LIGHTNIN" will fit any vessel. You don't need to worry about cost, for there's no special apparatus to buy and the first cost of a "LIGHTNIN" is much less than for other less versatile equipment that takes more time.

Many of the leading producers and refiners use "LIGHTNIN" Side Entering Units for blending aviation and all other types of gasoline and motor fuel in quantities up to 4,000,000 gallons (blending time is cut from ¼ to 1/40 depending on H. P.) In an emergency, this speeds up blending so that blending tanks can handle many times the usual quantities without adding a single new tank. Tell us your blending or mixing problems, and we will show you a faster and less expensive solution.



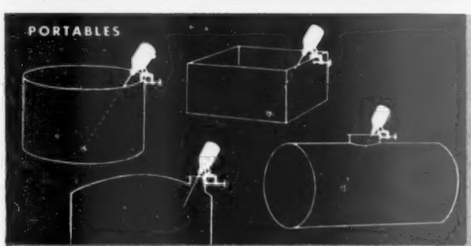
For Gasoline Blending

"LIGHTNIN" **Side Entering Units (geared or direct drive), are used for large scale operations or where no head room is available. Extremely simple to install and maintain. Sizes up to 25 H. P.**



Anti-freeze . . . Dry Cleaning Compound

"LIGHTNIN" **Top Entering Mixers are available in both geared and direct drive models for closed tanks up to 15 H. P. Also available for pressure or vacuum use. Off-center location gives maximum usable tank top.**



Lube Oil . . . Cutting Oils, etc.

"LIGHTNIN" **Portable Mixers for smaller quantities of non-volatile liquids, are attachable to the rim of any shape tank. Many special modifications. Easily moved from tank to tank. Available in both geared and direct drive in sizes from ¼ to 10 H. P**

MIXING EQUIPMENT CO., Inc.

1033 Garson Avenue · Rochester, N.Y.

MIXING EQUIPMENT COMPANY, INC.
1033 Garson Avenue
Rochester, New York
Please send me the bulletins checked at right:

Name.....

Company.....

Address.....

..... Bulletin B-66—Side Entering Mixers

..... Bulletin B-68—Top Entering Mixers

..... Bulletin B-65—Portable Mixers

..... Mi-II—MIXING PROBLEM WORK SHEET

6. "Satisfactory" does not satisfy him.
7. He never uses the good fellow racket.
8. He avoids high pressure.
9. He is never competitor conscious.
10. Routine calls are out.
11. He talks as an individual.
12. He is a giver rather than a getter.
13. He is a master salesman.
14. He is an intensive time manager.
15. He is hard to shake off.
16. He criticizes his own performances.
17. He has a sense of humor.
18. He uses the law of averages.
19. He builds customers
20. He watches little things.
21. He understands human psychology.
22. He has no Prima Donna temperament.
23. He has accuracy and technical capacity.
24. He is a student of salesmanship.
25. He picks his job with shrewd care."

Jobber Marley Williams would rate a cool 100 on this rating scale, if the rating was done by the most critical. Every one connected with his organization would come close to the same grade. For Marley has a 26th sign; "He is a good manager".

TRADEMARKS

The following are trademark applications pertinent to our field pending in the United States Patent Office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Munsey Building, Washington, D. C., trademark specialists.

HILCO, Ser. No. 449,050, The Hilliard Corporation, Elmira, N. Y. Filed: Nov. 29, 1941. For reclaiming and filtering apparatus especially intended for the reclaiming of oil as well as parts for such apparatus and filtering ingredients and materials employed as a part of the apparatus. Published: Jan. 6, 1942.

KRIEGER and picture of dog dressed in shorts and cap carrying flag. Ser. No. 448,512, Krieger Oil Co. of California, Clearwater, Calif. Filed: Nov. 10, 1941. For petroleum products, particularly motor oils, gasolines, diesel fuels, fuel oils and road oil. Published: January 6, 1942.

TRI-MORE PENN (PENN disclaimed) Ser. No. 447,119, Consumers Oil & Belting Co., Inc., New York, N. Y. Filed: Sept. 18, 1941. For lubricating oil. Published: January 20, 1942.

ATLANTIC on drawing lined for blue and red, Ser. No. 448,888, The Atlantic Refining Co., Philadelphia, Pa. Filed: Nov. 25, 1941. For gasoline. Published: January 20, 1942.

NATIONAL EN-AR-CO SOLV, Ser. No. 448,870, The National Refining Co., Cleveland, O. Filed Nov. 24, 1941. For flushing oil. Published: Jan. 13, 1942.

ALBREX, Ser. No. 448,479, Socony-Vacuum Oil Co., Inc., New York, N. Y. Filed: Nov. 8, 1941. For lubricating greases. Published: Jan. 27, 1942.

IMPREX, Ser. No. 448,481, Socony-Vacuum Oil Co., Inc., New York, N. Y. Filed: Nov. 8, 1941. For insulating oil for electric cables. Published: Jan. 27, 1942.

KALREX, Ser. No. 448,482, Socony-Vacuum Oil Co., Inc., New York, N. Y. Filed: Nov. 8, 1941. For lubricating greases. Published: Jan. 27, 1942.

"... AND HURRY IT UP!*@x!"=

A.M.

AXLE MAINTENANCE would have prevented this!

"Hurry it up" is right! Now — when every truck, every trailer is vital for victory—unnecessary breakdowns on the road *must* be avoided. It's every owner's and operator's duty to keep his equipment in shape — *to keep it rolling!* That's where A.M. (Axle Maintenance) comes in. We've had plenty of experience — practical experience — testing — studying ways and means of caring for axles, brakes, tires and other vital points of trucks and trailers for better service and longer life. Now we've assembled many of these facts in a new booklet. "How Tires Affect Axles," free for the asking. Every truck owner, dealer and service man will find it helpful. Write for it today.

TIMKEN AXLES

THE TIMKEN-DETROIT AXLE CO., DETROIT, MICHIGAN
WISCONSIN AXLE DIVISION, OSHKOSH, WISCONSIN

New PD-1A Form Speeds Priorities; Ratings Are Now Extensible

WASHINGTON, Feb. 17.—A new and important priorities instrument has been placed in the hands of the oil industry—and American industry generally—in the form of Priorities Application PD-1A which is more valuable than the PD-1 it replaces, because priority ratings granted may be extended to suppliers and sub-suppliers, thus avoiding delay. (*NPN, Feb. 4, p. 7*).

Use of the new form becomes mandatory after Mar. 2. It may be used now, providing one is obtained. For the PD-1A is as scarce as a hen's tooth and the apparently few copies that are available are guarded more jealously than the Fort Knox gold vault.

War Production Board does not promise quantity distribution of the new form until about the end of this month, in contrast with an earlier statement that it would be available about the middle of the month.

There is not much difference between the 2 forms insofar as filling them out is concerned. The chief advantage is in the extension of the rating.

PD-1A is to be filled out in triplicate and is accompanied by an instruction sheet which lists a number of questions to be answered. The form consists of a blank page on which the questions are to be answered by listing the number of the question in the left hand margin.

On the back of each sheet, space is provided for the applicant to list the items covered by the application, including the required delivery date, quantity and value of each shipment.

At the bottom of this sheet, there is a space where the preference rating will be assigned. A copy of the certificate accompanying purchase orders pursuant to the ratings granted also is on this page.

Questions to be answered by all applicants follow:

A description of the product to be produced from the material or equipment; explanation of relationship of applicant's product to war program, national welfare, or government-sponsored programs; list of pending PD-1 or PD-1A applications for other material required to fill the need for which the application is made.

If material is required for a single Government contract or a single civilian order for the product involved, specify name of Government agency or civilian customer, Supply Arm or Bureau of Government, complete Government contract number or civilian purchase order number, quantity of product on contract or purchase order, and grade of preference rating, if any, assigned to product on contract or purchase order.

If material is required for several Government contracts or civilian purchase orders, specify names of all Government agencies, names of principal civilian customers whose purchase orders are held, and grades of preference ratings, if any, assigned to product on contracts or purchase orders.

For each item for which preference rating is requested, give shipping dates promised by supplier in absence of a preference rating and names of suppliers, if any, who have refused to accept applicant's orders.

Only applicants for preference rating on capital equipment answer these additional questions:

Number of men worked on 1st, 2nd, and 3d shifts in the department where the equipment is to be used. Average weekly hours worked on each shift. What per cent of total present output of the department is applied to Defense Orders? Do you have in use any equipment similar to that for which application is made? If so, what is the average weekly hours of use of equipment referred to? How do you now accomplish the work for which you require the equipment applied for?

OILMEN!

Save time...Read OILGRAM DAILY NEWS the boiled-down factual oil news of the day

Just 9 minutes reading time every morning.

Last week, OILGRAM DAILY OIL NEWS averaged 3 pages of fact-packed news EACH DAY!

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· Platt's OILGRAM ·

512 Penton Building Cleveland, Ohio

DEATHS

C. A. Gustafson

C. A. Gustafson, 61, died Feb. 15 in Chicago. He was an oil jobber for over 28 years and owned the company bearing his name. Mr. Gustafson was born in Sweden; came to U. S. in 1884. He was a life-long resident of Chicago.

* * *

Ben H. Radke

Ben H. Radke, 49, wholesale oil and gasoline dealer of Ephrata, Wash., died at his home following a three-week illness.

* * *

O. E. Dustman

O. E. Dustman

O. E. Dustman, 56, died of a heart attack Feb. 3 in Los Angeles. He had been Southern California Manager of the Ralph N. Brodie Co., for more than nine years. Mr. Dustman, born and raised in Indiana, was well known in the petroleum and natural gas industry.

SAFE ECONOMICAL STORAGE IN "FIVE VOLUMES"

Each strategically located General American Tank Storage Terminal has a storage volume adequate to serve huge quantities of bulk liquids.

Each gives you the capacity, the speed, the protection you need—at lowest cost. You save on freight rates, on handling, on freedom from waste and contamination, on insurance, on wharfage and demurrage charges.

And you get all these benefits without a penny of investment. Instead of drawing on your capital, you *add to it*—for General American warehouse receipts are accepted as the highest type of collateral everywhere.

ONLY GENERAL AMERICAN GIVES THESE ADVANTAGES:

1. RELIABLE CUSTODIANSHIP. Our warehouse receipts are highest type of collateral everywhere.

2. MODERN PROTECTION. Latest safety appliances; lowest insurance rates; minimum evaporation losses.

3. INDEPENDENT OWNERSHIP. Strictest privacy; General American does not buy, sell or refine any oils.

4. NO WHARFAGE. There is no wharfage at our own private docks.

5. SPEED WITH SAFETY. Day and night crews, complete facilities, eliminate all shipping delays.

6. LARGE TANK CAR FLEET. One car or hundreds, to handle any type of bulk liquid.

7. NO CONTAMINATION. Separate pumps, lines, storage zones for dissimilar commodities.

GATX GENERAL AMERICAN

GENERAL AMERICAN TANK STORAGE TERMINALS

GOODHOPE and WESTWEGO, LA. (Port of New Orleans)
CARTERET, NEW JERSEY (Port of New York)
CORPUS CHRISTI, TEXAS GALENA PARK, TEXAS (Port of Houston)

A DIVISION OF GENERAL AMERICAN TRANSPORTATION CORP.

Tin Cans for Oil Industry Will Be Cut Off by Nelson

(*Continued from page 8*)

on permission of WPB which will be based on similar evidence.

However, provisions of the order do not apply to tinplate, terneplate or cans made of these materials which were manufactured "pursuant to a Defense Order supported by a Preference Rating of higher than A-2."

Prime purpose of the order was to save tin, a saving estimated at about 15,500 tons annually. Biggest savings are due to come from elimination of "non-essential" cans in the following amounts:

Oil, 275 tons; beer, 1600 tons; pork and beans, 1440 tons; coffee, 900 tons; tobacco, 200 tons; kidney beans, 200 tons; hominy, 150 tons; dog food, 820 tons.

Thus forced to find substitutes for packaging petroleum products, the oil industry last week faced at least four major alternatives—blackplate cans, glass bottles, cardboard containers, or bulk distribution.

An official source said blackplate is available, but deliveries are late. Mills are scheduling deliveries in from 4 to 6 weeks, he said.

Blackplate is sheet steel as it comes from the mill. Terneplate is blackplate coated with a lead-tin alloy—usually 80% lead, 20% tin.

An official source said, further, that glass factories have the plant capacity to turn out more bottles, many of which could be used by the petroleum industry, but an increase in production might encounter a shortage of soda ash—one of the basic compounds of glass.

He said it might not be possible to obtain lubesters immediately either.

The tin can order did not restrict the use of tin for cans to pack foods considered of primary importance by Agriculture Department, but use of tin for other food cans and industrial preparations will be held down to the 1940 level.

Meanwhile, Board of Economic Warfare tightened restrictions on exportation of all types of metal drums and containers for oil, gas, other liquids and solids.

Beginning midnight, Feb. 20, exportation of all types of drums and containers, including gas cylinders, either filled or unfilled, will be authorized under general licenses only to Canada, Great Britain, Northern Ireland, Newfoundland, Greenland and Iceland.

Bureau of Industry Advisory Committees (part of Division of Industry Operations) last week formed a Steel Container Manufacturers Industry Advisory Committee to consult with the Bureau and the Division. Similar committees have been named for several industries.

Members of the committee are:

F. T. Barton, Jones and Laughlin Steel Barrel Co., Bayonne, N. J.; S. A. Bennett, Bennett Mfg. Co., Chicago, Ill.; R. L. Brammer, Wheeling Corrugating Co., Wheeling, W. Va.; C. W. Casey, Stainless and Steel Products Co., St. Paul, Minn.; J. A. Connelly, Petroleum Iron Works, Sharon, Pa.; T. W. Floyd, Wilson and Bennett Mfg. Co., Chicago; H. W. Lees, Draper Mfg. Co., Cleveland, O.; D. F. Manion, Jr., Manion Steel Barrel Co., Rouseville, Pa.; Fred Richman, Florida Drum Co., Pensacola, Fla.; H. P. Thelan, Owens-Illinois Can Co., Toledo, O.; F. O. Wahlstrom, Southern States Iron Roofing Co., Savannah, Ga.; and L. B. Keplinger, Rheem Manufacturing Co., New York City.

LINE UP
VIKINGS...

To Whip Your PUMPING PROBLEMS

Viking Rotary Pumps are first choice with the petroleum industry because of their long record of dependable, trouble-free performance.

A recent factory shipment included the 12 Vikings pictured, each of 1050 GPM capacity, ready for assembly into complete units to be installed on barges to load and unload petroleum products. The finished job includes bases, back gearing, supporting bearings, and gear guards ready to accept power units.

Today, more than ever before, pumps must DELIVER. If you have a pumping problem, tell us about it. We'll do our best to help you. Viking installation and maintenance booklet free on request.

VIKING PUMPS — FIRST IN AMERICA

VIKING Pump COMPANY
CEDAR FALLS, IOWA

Group Insurance Plan Extended by Ashland

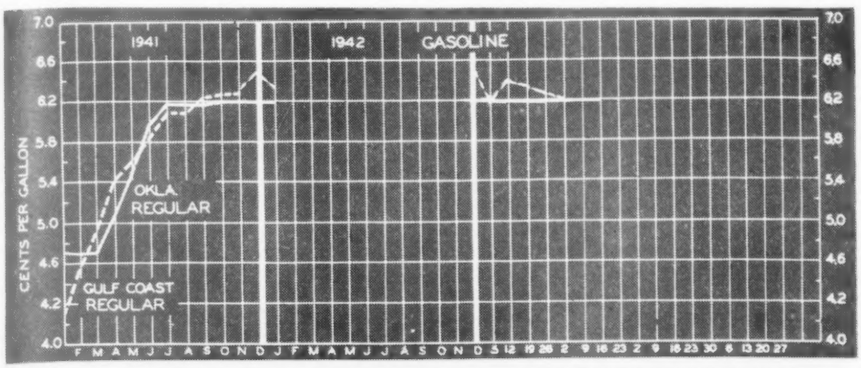
Employes of Ashland Oil & Refining Co., Ashland, Ky., are benefitting from company's enlargement of life insurance plans. All eligible workers are given the opportunity to take out additional insurance approximately equal to their annual salary. Over half the cost of this insurance will be assumed by the company and balance by the employe.

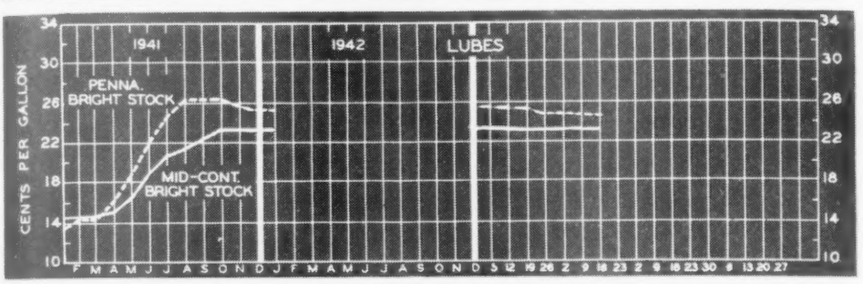
Company is continuing previous plan of providing $1000 group life and $1000 accidental dismemberment insurance free to all eligible employes.

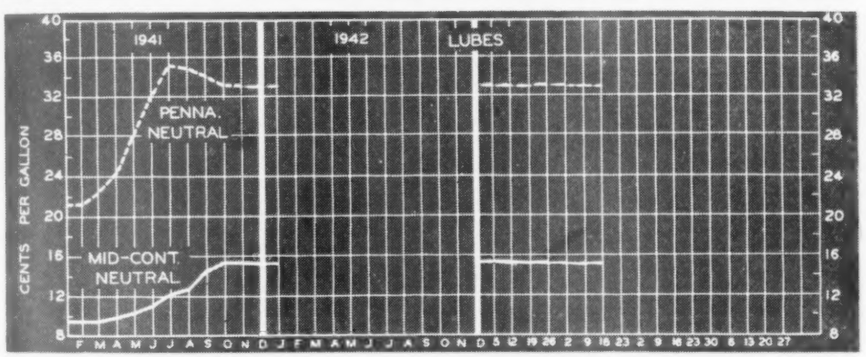
STATISTICS

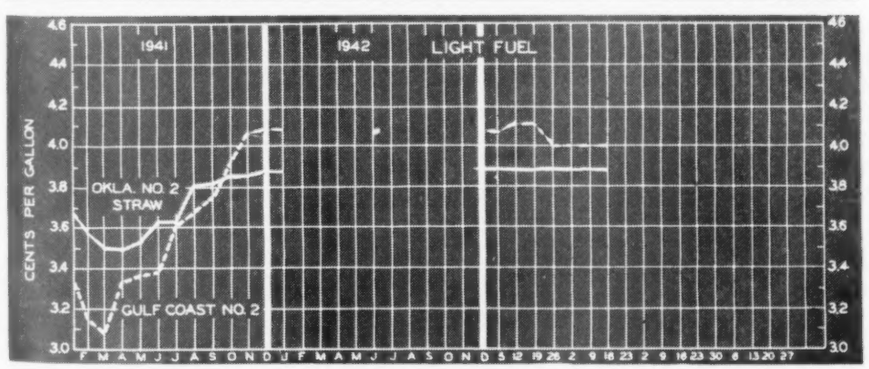
Refinery Prices

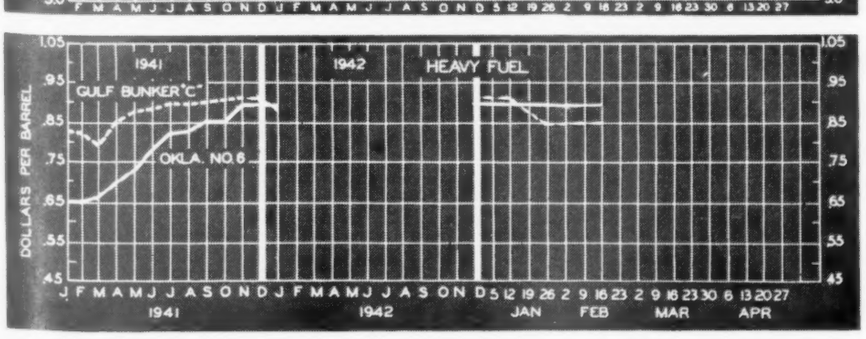
Monthly prices in graphs are averages of daily high and low prices shown in Platt's Oilgram Weekly prices are averages of high and low prices shown in Monday Oilgram, and in NPN











Natural Gasoline Production

(Bureau of Mines figures in thousands of barrels)

	Dec. 1941	Nov. 1941	Dec. 1940
Appalachian	238	222	207
Ill., Mich., Ky.	184	175	117
Oklahoma	774	788	760
Kansas	164	162	150
Texas	2,684	2,622	2,052
Louisiana	594	597	238
Arkansas	73	75	69
Rocky Mountain	207	209	186
California	1,164	1,144	1,172
Total U.S.	6,082	5,994	4,951
Daily Average	196	200	160

G.C.R.A. Stocks Report

(Compiled by Gulf Coast Refiners Assn. from reports of member companies. Figures in barrels.)

	Feb. 1 (a)	Jan. 15 (b)
Gasoline Stocks, Total	1,928,545	1,611,915
Aviation Gasoline	209,756	172,497
Motor Fuel	1,594,244	1,314,630
Naphtha	124,555	124,788
Kerosine	121,093	92,053
Diesel Gas Oil	614,751	539,388
Diesel Fuel	38,543	24,379
Gas Oils, other types	1,337,878	1,018,481
No. 5 Fuel Oil	416,253	450,660
Bunker "C" Fuel Oil	588,666	598,738
Crude Runs (daily average)	117,975	111,550

(a) Inventory of 13 companies.
(b) Inventory of 11 companies.

Gasoline Consumption by States

January-November 1941

(American Petroleum Institute figures in thousands of gallons)

	11 months total January-November 1941	1940	% of Change
Alabama	299,849	241,617	+24.10
Arizona	118,289	103,812	+15.05
Arkansas	202,789	174,182	+16.42
California	2,039,362	1,766,235	+15.46
Colorado*	.....	.....	.....
Connecticut	384,670	349,610	+10.03
Delaware	62,453	57,842	+ 7.97
Dist. of Columbia	174,403	153,124	+13.90
Florida	430,880	367,661	+17.19
Georgia	409,712	357,074	+14.74
Idaho	108,521	99,484	+ 9.08
Illinois	1,504,236	1,391,712	+ 8.09
Indiana	754,664	664,260	+13.61
Iowa	564,664	530,746	+ 6.39
Kansas	500,622	467,717	+ 7.04
Kentucky	308,946	266,567	+15.90
Louisiana	292,663	254,308	+15.08
Maine	160,815	146,478	+ 9.79
Maryland	333,258	288,276	+15.60
Massachusetts	737,219	685,953	+ 7.47
Michigan	1,280,053	1,153,014	+11.02
Minnesota	561,881	543,962	+ 3.29
Mississippi	235,505	200,313	+17.57
Missouri	702,814	642,260	+ 9.43
Montana	140,204	129,079	+ 8.62
Nebraska	232,535	218,843	+ 6.26
Nevada	45,809	40,596	+12.84
New Hampshire	94,077	89,024	+ 5.68
New Jersey	922,617	845,657	+ 9.10
New Mexico	107,660	101,172	+ 6.41
New York	1,893,002	1,817,865	+ 4.13
North Carolina	493,423	416,918	+18.35
North Dakota	155,393	144,992	+ 7.17
Ohio	1,499,179	1,352,066	+10.88
Oklahoma*	.....	.....	.....
Oregon	278,949	243,101	+14.75
Pennsylvania	1,560,801	1,450,719	+ 7.59
Rhode Island	135,374	122,908	+10.14
South Carolina	251,396	213,037	+18.01
South Dakota	141,475	134,686	+ 5.04
Tennessee	345,852	297,496	+16.25
Texas	1,552,027	1,300,775	+19.32
Utah	108,548	99,270	+ 9.35
Vermont	69,550	65,890	+ 5.55
Virginia	453,240	381,216	+18.89
Washington	402,719	349,773	+15.14
West Virginia	220,406	203,452	+ 8.33
Wisconsin	587,009	548,191	+ 7.08
Wyoming	73,639	65,458	+12.50
Total U. S.	23,933,152	21,538,391	+11.12
Daily Average	71,656	64,294	+11.45
Total change from previous year	+2,394,761	.....	.....

*November 1941 figures not available at time of publication. Colorado consumption for first 10 months of 1941 was 226,805,000 gals., a gain of 6.21% over first 10 months of 1940 (213,546,000 gals.). Oklahoma consumption figures for first 10 months: 1941, 395,723,000 gals.; 1940, 374,582,000 gals. % of gain 5.64.

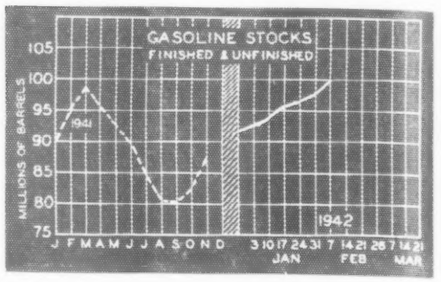
STATISTICS

Refinery Operations

Monthly figures are actual as reported by Bureau of Mines. Weekly figures are as estimated by American Petroleum Institute on Bureau of Mines basis, except crude stocks which are as reported by Bureau of Mines.

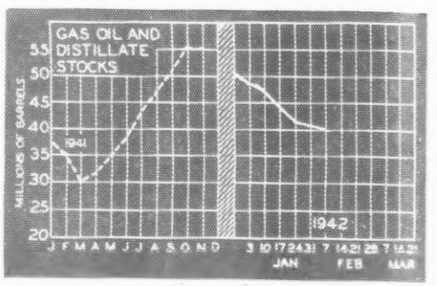
(American Petroleum Institute figures in thousands of barrels of 42 gallons each. Figures include reported totals plus an estimate of unreported amounts and are therefore on a Bureau of Mines basis.)

Districts	Daily Potential Refining Capacity Week Ended Feb. 7	Daily Potential Refining Capacity Week Ended Jan. 31	Per Cent of Refining Capacity Reporting Week Ended Feb. 7	Per Cent of Refining Capacity Reporting Week Ended Jan. 31	Daily Average Crude Runs to Stills Week Ended Feb. 7	Daily Average Crude Runs to Stills Week Ended Jan. 31	Per Cent of Reporting Capacity Operated Week Ended Feb. 7	Per Cent of Reporting Capacity Operated Week Ended Jan. 31
East Coast	714	714	100.0	100.0	583	618	81.7	86.6
Appalachian	174	174	84.5	84.5	148	160	85.1	92.0
Ind., Ill., Ky.	784	784	84.9	84.9	709	696	90.4	88.8
Okla., Kans., Mo.	418	418	81.1	81.1	327	329	78.2	78.7
Inland Texas	266	266	65.0	65.0	191	180	71.8	67.7
Texas Gulf	1,130	1,130	91.3	91.3	1,031	1,033	91.2	91.4
La. Gulf	172	172	94.8	94.8	160	168	93.0	97.7
N. La. Ark.	97	97	51.5	51.5	80	79	82.5	81.4
Rocky Mt.	138	138	50.7	50.7	82	93	59.4	67.4
California	787	787	90.9	90.9	542	492	68.9	62.5
TOTAL U. S.—B. of M. Basis	4,680	4,680	86.9	86.9	3,853	3,848	82.3	82.2
U. S.—B. of M. Basis Feb. 8, 1941					3,616			



	Gasoline Production at Refineries inc. Natural Blended Week Ended Feb. 7	Gasoline Production at Refineries inc. Natural Blended Week Ended Jan. 31	Stocks of Finished and Unfinished Gasoline Week Ended Feb. 7	Stocks of Finished and Unfinished Gasoline Week Ended Jan. 31	Total Stocks Gas Oil & Distillates Week Ended Feb. 7	Total Stocks Gas Oil & Distillates Week Ended Jan. 31	Total Stocks Residual Fuel Oil Week Ended Feb. 7	Total Stocks Residual Fuel Oil Week Ended Jan. 31
East Coast	1,715	1,820	19,343	19,536	12,756	13,400	8,573	8,789
Appalachian	523	520	3,943	3,799	376	375	566	505
Ind., Ill., Ky.	2,691	2,681	20,799	20,392	3,763	3,845	4,344	4,210
Okla., Kans., Mo.	1,277	1,308	9,567	9,194	1,078	1,040	2,078	2,108
Inland Texas	825	851	3,560	3,409	120	121	1,273	1,321
Texas Gulf	3,352	3,389	18,361	17,156	7,697	7,882	9,213	9,295
La. Gulf	475	456	4,633	4,395	1,519	1,513	2,180	2,197
N. La., Ark.	236	245	962	877	73	61	365	361
Rocky Mt.	351	370	2,190	2,137	281	312	616	624
California	1,450	1,561	16,866	16,915	12,375	12,125	61,651	61,779
Total U. S.—B. of M. Basis	12,895	13,201	100,224*	97,810†	40,030	40,674	90,859	91,189
U. S.—B. of M. Basis Feb. 8, 1941	11,773		92,511		37,223		97,782	

*Finished 92,141,000 bbls.; Unfinished 8,083,000 bbls. †Finished 90,009,000 bbls.; Unfinished 7,801,000 bbls.



N.P.N. Gasoline Index

	Dealer T.W. Cents per	Tank Car Gallon
Feb. 16	10.19	6.72
Month Ago	10.06	6.79
Year Ago	8.64	5.12

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of following wholesale markets for regular-grade gasoline, FOB refineries or terminals: Okla., Mid-Western, W. Penna., Calif., N. Y. Harbor, Philadelphia, Jacksonville, Boston, Gulf Coast.

Pennsylvania Crude Runs

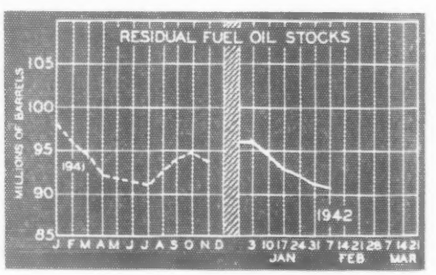
(Compiled by National Petroleum Assn. from reports of all companies which refined Pennsylvania crude. Figures in barrels.)

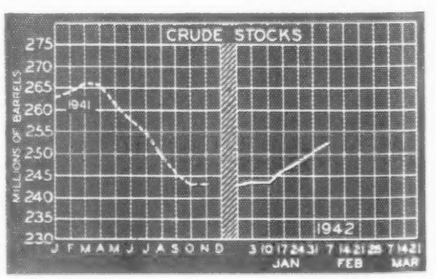
Week Ended	Daily Average	Week Ended	Daily Average
Jan. 3	72,172	Jan. 31	82,603
Jan. 10	77,676	Feb. 7	74,927
Jan. 17	81,658	1941 Low	61,384
Jan. 24	84,089	1941 High	84,326

Crude Oil Stocks

(Bureau of Mines figures; thousands of barrels)

Grade or Origin	Jan. 24	Jan. 31	Feb. 7	Change from Jan. 31
Pennsylvania Grade	3,519	3,538	3,549	+ 11
Other Appalachian	1,470	1,447	1,491	+ 44
Lima-Michigan	1,456	1,474	1,523	+ 49
Illinois-Indiana	18,052	17,769	19,076	+1,307
Arkansas	2,865	3,046	2,921	—125
Kansas	7,563	7,931	8,176	+245
Louisiana:	13,122	13,080	13,285	+205
Northern	4,160	4,224	4,086	—138
Gulf Coast	8,962	8,856	9,199	+343
Mississippi	2,858	2,818	2,956	+138
New Mexico	6,910	7,052	7,255	+203
Oklahoma	50,605	50,504	50,244	—260
Texas:	84,490	86,299	85,970	—329
East Texas	20,467	20,941	20,703	—238
West Texas	19,447	20,214	19,998	—216
Gulf Texas	24,980	25,331	25,501	+170
Other Texas	19,596	19,813	19,768	— 45
Rocky Mountain	16,428	16,285	16,225	— 60
California	36,494	37,250	37,482	+232
Foreign	2,332	2,247	2,213	— 34
Total U. S. refinable	248,164	250,740	252,366	+1,626
Heavy in Calif.	10,586	10,476	10,496	+ 20
E. Coast ref. crude	11,491	11,101	10,034	—1,067
E. Coast pipe line crude	357	352	352	
E. Coast ref. prod.	55,325	53,097	51,220	—1,877
Total all oils	67,173	64,550	61,606	—2,944

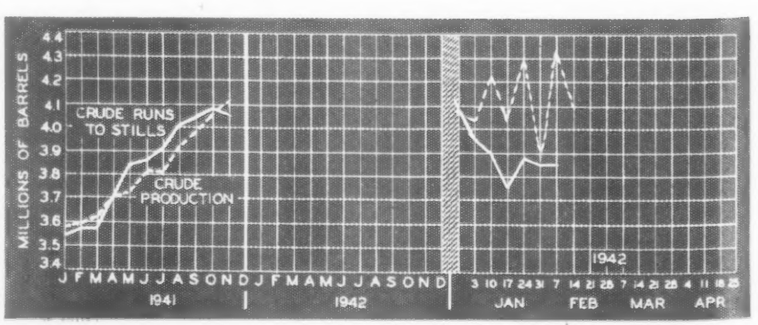




Crude Oil Production

(American Petroleum Institute figures)

	WEEK ENDED Feb. 14 Barrels (Daily Average)	WEEK ENDED Feb. 7 Barrels (Daily Average)
Oklahoma	393,000	408,200
Kansas	249,900	246,700
Nebraska	4,400	5,100
Texas	1,502,650	1,731,400
Louisiana	357,300	364,550
Arkansas	74,100	74,600
Mississippi	88,250	83,550
Illinois	342,900	370,500
Indiana	17,600	20,900
Eastern (Ill. & Ind. excluded	95,550	90,350
Michigan	52,600	53,200
Wyoming	89,000	89,400
Montana	21,550	20,750
Colorado	6,600	6,650
New Mexico	120,750	120,700
California	662,350	650,350
Total U.S.	4,078,500	4,336,900



MARKETS

Mid-Continent

TULSA, Feb. 14—Natural gasoline prices dropped again in the Mid-Continent the past week, with sales of Grade 26-70 reported late in the week at 3.25c, FOB Group 3, and 2.75c, FOB Breckenridge, off 0.75 to 0.875c per gallon. Some sellers indicated distressed positions. One said he had sold "a few cars" at "as much as 0.25c below the OILGRAM." Price "was no object,—it had to be moved," he added.

Refined products quotations for most part were unchanged. Some refiners withdrew from the market, or reduced their quotations to prevailing "lows" in order, they said, to "get in line" with OPA's price schedules.

Oklahoma refiner reported inter-refinery inquiry for 500 to 600 cars 72-74 oct. leaded gasoline for East Coast shipment in seller's cars over balance of February.

Texas refiner quoted 5c, FOB refinery, on 600 to 700 cars 72-74 oct. gasoline, shipment in his own cars, for Atlantic Coast destinations.

Mid-Western

CHICAGO, Feb. 14—Quotations reported by refiners and tank car marketers in Chicago for most part were unchanged the past week. One refiner withdrew his open spot quotations until such time as his "legal department can give me interpretations of OPA's Price Schedule No. 88."

Open spot sales reported the past week by 4 marketers totaled: 7 cars 78 oct. Ethyl at 6.625c; 9 cars 70-72 oct., 1 car at 5.75c, and 8 cars at 5.875c; 10 cars 60 oct. & below at 5.25c; 4 cars 41-43 kerosine at 3.875c; and 2 cars range oil at 3.875c, FOB Group 3.

Refiners Group 3 quotations ranged 7.1 to 7.3c for 78 oct., 6 to 6.375c for 72-74 oct., 5.25 to 5.625c for 60 oct. & below, 4.375 to 4.75c for 41-43 kerosine, and 4c for range oil. Marketers Group 3 quotations ranged 6.625 to 7c, 5.625 to 5.875c, 5.125c, 3.75 to 4.125c, and 3.875 to 4c, for the 5 products, respectively.

California

LOS ANGELES, Feb. 13—Gasoline prices were easier the past week as stocks piled up at refineries and some independents curtailed their runs for lack of market. Some gasoline was reported selling at 4c for third grade. One refiner described the situation, "as just plain terrible".

Only product which was in demand was fuel oil and several smaller independents said they were getting to the place where they didn't want to run any more crude for the fuel oil only.

In the export market, 70-octane gasoline was quoted 0.125c higher at 6.375c.

Gulf

NEW YORK, Feb. 14—Gulf market for refined products was "at a standstill" throughout week ended Feb. 14, with transportation problem preventing any activity. One refiner said he had begun to curtail runs since "storage rapidly reaching capacity on gasoline". Others said storage had not become a problem "yet". "We'll have to depend on the government to take care of us," said one referring to transportation "bottleneck".

Quotations for all products were unchanged, although belief was held generally that buyer with a boat could do better than current low quotations. "Only reason prices haven't gone lower is that there have been no sales," one refiner commented.

Atlantic Coast

NEW YORK, Feb. 14—No improvement in fuel supply situation was reported by Atlantic Coast suppliers the past week, although prospect on light fuels was said to be "encouraging." Suppliers said that although they've been "at bottoms" for a long while inventories had been and were being stretched over the trade and they "hope" to be able to meet requirements of remainder of heating season without difficulty.

No rationing of heavy fuels was reported, but step was regarded as approaching possibility. Suppliers generally were not optimistic over relief to be afforded Bunker "C" shortage by using all possible tonnage to bring residual oils from Gulf to East Coast. Most boats properly equipped already were carrying heavy fuels and installation of necessary coils in "clean" boats will cause further delays, they said.

Pennsylvania

NEW YORK, Feb. 14—Majority of lower field Western Penna. refiners lowered their quotations for kerosine 0.125 to 0.25c the past week to bring them "into line with OPA schedule," with 46 w.w. offered at 6.125c, down 0.125c.

In upper field, 74-76 oct. (ASTM) gasoline was quoted 0.25c higher at 7.75c by only refiner quoting that grade. Refiner also advanced lower field 74-76 oct., both ASTM and L-3 grades, 0.25c to 7.25c. Other lower refiners quoted both grades at 7 to 7.3c.

Cylinder stocks were quoted at flat prices of 15c for 600 s.r., 15.5c for 650 s.r., 16c for 600 flash, and 17c for 630 flash following reductions of 0.5 to 1c by one refiner "in accordance with OPA price orders."

Index of Governmental Orders Concerning Petroleum Prices

Orders, "requests", "ceilings", and other statements issued by governmental agencies concerning prices of petroleum and products, prices for which are published in this market section of NATIONAL PETROLEUM NEWS, have been published as follows:

	NATIONAL PETROLEUM NEWS	PLATT'S OILGRAM	Platt's OIL-Law-GRAM
Aug. 4, '41—"Ceiling" on Penna. neutral	Aug. 6, pg. 5	Aug. 4, pg. 1	Pg. 17
Aug. 23, '41—Maximum prices for Penna. grade crudes	Aug. 27, pg. 7	Aug. 23, pg. 1	Pg. 17
Aug. 28, '41—Maximum s.s. prices for regular-grade gasoline in 40 Atlantic Coast cities	Sept. 3, pg. 7	Aug. 28, pg. 1	Pg. 22
Sept. 4, '41—"Ceiling" on Gulf Coast Minimum 80 oct. (research) gasoline	Sept. 10, pg. 7	Sept. 5, pg. 1	Pg. 58
Nov. 7, '41—See Jan. 17, '42 below.			
Nov. 10, '41—See Jan. 17, '42 below.			
Nov. 21, '41—Maximum prices for paraffin wax	Nov. 26, pg. 5	Nov. 21, pg. 1	Pg. 66
Nov. 28, '41—See Jan. 17, '42 below.			
Jan. 17, '42—OPA letter restating contents of letters of Nov. 7, 10 and 28, '41; formula for determining maximum prices for all products other than those covered by specific orders.	Jan. 21, pg. 7	Jan. 19, pg. 1	Pg. 135
Jan. 17, '42—Maximum prices for Bunker "C" and No. 6 fuel, East & Gulf Coasts.	Jan. 21, pg. 5	Jan. 20, pg. 1	Pg. 146
Jan. 22, '42—Approval of 0.3c advance in gasoline, Atlantic Coast states	Jan. 28, pg. 7	Jan. 22, pg. 1	Pg. 147
Jan. 28, '42—Amendment No. 1 to paraffin wax price schedule	Feb. 11, pg. 20	Jan. 29, pg. 1	Pg. 153
Feb. 2, '42—OPA Price Schedule No. 88	Feb. 11, pg. 17	Feb. 4, pg. 1	Pg. 159
Feb. 5, '42—Amendment No. 1 to OPA Price Schedule No. 88	Feb. 11, pg. 18	Feb. 9, pg. 1	Pg. 167
Feb. 7, '42—Amendment No. 2 to OPA Price Schedule No. 88	Feb. 11, pg. 18	Feb. 9, pg. 1	Pg. 167

REFINERY and SEABOARD PRICES

In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.

HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are as published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

All information is supplied without guarantee as to its completeness, accuracy, time of transmission or promptness of delivery.
The subscriber receives this information for his private use and not for resale or further distribution.
Publisher reserves the right to change the extent, nature and form of showing this information at any time.
Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "Inter-refinery" transactions are also not considered except as may be noted.
All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.
Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon; heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.
Prices do not include taxes or inspection fees. Prices are published at the close of the business day.
Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.
When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in conjunction with the price table by footnote or otherwise, for the particular refinery or sales district involved.
Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test: and all crude oil and all products thereof as having been lawfully produced and transported.
Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads.

Summary of Daily Gasoline Prices (Feb. 10 to Feb. 16)

	Monday Feb. 16	Friday Feb. 13	Thursday Feb. 12	Wednesday Feb. 11	Tuesday Feb. 10
U. S. Motor, (ASTM octane)					
78 octane Ethyl:					
Oklahoma	6.75 – 7.25	6.75 – 7.25	6.75 – 7.25	6.75 – 7.25	6.75 – 7.55
Mid-Western (Group 3 basis)	7.1 – 7.3	7.1 – 7.3	7.1 – 7.3	7.1 – 7.3	7.1 – 7.4
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	7	7	7	7 – 7.375	7 – 7.375
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	7.2 (1)	7.2 (1)	7.2 (1)	7.2 (1)	7.2 (1)
72-74 octane:					
Oklahoma	6 – 6.375	6 – 6.375	6 – 6.375	6 – 6.375	6 – 6.375
Mid-Western (Group 3 basis)	6 – 6.375	6 – 6.375	6 – 6.375	6 – 6.375	6 – 6.375
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6 – 6.3	6 – 6.3	6 – 6.3	6 – 6.375	6 – 6.375
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6.125 – 6.2	6.125 – 6.2	6.125 – 6.2	6.125 – 6.2	6.125 – 6.2
63-66 octane:					
Oklahoma	5.625 – 6	5.625 – 6	5.625 – 6	5.625 – 6	5.625 – 6
Mid-Western (Group 3 basis)	5.625 – 6	5.625 – 6	5.625 – 6	5.625 – 6	5.625 – 6
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.625 – 6	5.625 – 6	5.625 – 6	5.625 – 6	5.625 – 6
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.75 (1)	5.75 (1)	5.75 (1)	5.75 (1)	5.75 (1)
60 octane & below:					
Oklahoma	5.25 – 5.625	5.25 – 5.625	5.25 – 5.625	5.25 – 5.625	5.25 – 5.625
Mid-Western (Group 3 basis)	5.25 – 5.625	5.25 – 5.625	5.25 – 5.625	5.25 – 5.625	5.25 – 5.625
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.25 – 5.5	5.25 – 5.5	5.25 – 5.5	5.25 – 5.625	5.25 – 5.625
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.375 – 5.5	5.375 – 5.5	5.375 – 5.5	5.375 – 5.5	5.375 – 5.5
Motor Gasoline, 72-74 octane (ASTM)					
New York harbor	8.3	8.3	8.3	8.3	8.3
New York harbor, barges	8.2 – 8.3	8.2 – 8.3	8.2 – 8.3	8.2 – 8.3	8.2 – 8.3
Philadelphia district	8.3	8.3	8.3	8.3	8.3
Baltimore district	8.05	8.05	8.05	8.05	8.05
Motor Gasoline:					
Western Penna. Bradford-Warren:					
Min. 80 Oct. ('39 Research)	No Price	No Price	No Price	No Price	No Price
74-76 Oct. (ASTM)	7.75 (1)	7.75 (1)	7.75 (1)	7.75 (1)	7.5 (1)
74-76 Oct. (L-3)	7.5 (1)	7.5 (1)	7.5 (1)	7.5 (1)	7.5 (1)
Western Penna. Other Districts:					
Min. 80 Oct. ('39 Research)	No Price	No Price	No Price	No Price	No Price
74-76 Oct. (ASTM)	7 – 7.3	7 – 7.3	7 – 7.3	7 – 7.3	7 – 7.3
74-76 Oct. (L-3)	7 – 7.3	7 – 7.3	7 – 7.3	7 – 7.3	7 – 7.3

REFINERY PRICES

Gasoline—U. S. Motor (ASTM) except where otherwise specified

Prices Effective	Feb. 16	Feb. 9
OKLAHOMA		
78 oct. Ethyl	6.75 – 7.25	6.75 – 7.55
72-74 oct.	6 – 6.375	6 – 6.375
63-66 oct.	5.625 – 6	5.625 – 6
60 oct. & below	5.25 – 5.625	5.25 – 5.625
60-62 400 e.p.	5.25 (1)	5.375 (1)
MID-WESTERN (Group 3 basis)		
78 oct. Ethyl	7.1 – 7.3	7.1 – 7.4
72-74 oct.	6 – 6.375	6 – 6.375
63-66 oct.	5.625 – 6	5.625 – 6
60 oct. & below	5.25 – 5.625	5.25 – 5.625
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
78 oct. Ethyl	7	7 – 7.375
72-74 oct.	6 – 6.3	6 – 6.375
63-66 oct.	5.625 – 6	5.625 – 6
60 oct. & below	5.25 – 5.5	5.25 – 5.625
60-62, 400 e.p.	5.5 (1)	5.5 (1)
W. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
78 oct. Ethyl	7.2 (1)	7.2 (1)
72-74 oct.	6.125 – 6.2	6.125 – 6.2
63-66 oct.	5.75 (1)	5.75 (1)
60 oct. & below	5.375 – 5.5	5.375 – 5.5
CENT. W. TEX. (Prices to truck transports)		
80 oct. & above	7.375 (2)	7.375 (2)
72-74 oct.	6.125 (2)	6.125 (2)
67-69 oct.	5.625 (1)	5.625 (1)
62 oct. & below	5.375 (2)	5.375 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
60 oct. & below	No Price	No Price
60-62, 400 e.p.	No Price	No Price

Prices Effective	Feb. 16	Feb. 9
KANSAS (For Kansas destinations only)		
78 oct. Ethyl	7.375 (1)	7.375–7.5 (2)
72-74 oct.	6.3–6.375 (2)	6.3 – 6.375
63-66 oct.	6 (1)	5.9 – 6 (2)
60 oct. & below	5.5–5.625 (2)	5.5 – 5.625
ARK. (For shipment to Ark. & La.)		
72-74 oct.	No Price	No Price
70-72 oct.	6 (1)	6 (1)
60 oct. & below	5.5 (1)	5.5 (1)
WESTERN PENNA. (Motor gasoline)		
Bradford-Warren:		
Min. 80 oct. ('39 research)	No Price	No Price
74-76 oct. (ASTM)	7.75 (1)	7.5 (1)
74-76 oct. (L-3)	7.5 (1)	7.5 (1)
Other districts:		
Min. 80 oct. ('39 research)	No Price	No Price
74-76 oct. (ASTM)	7 – 7.3	7 – 7.3
74-76 oct. (L-3)	7 – 7.3	7 – 7.3
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group)		
U.S. Motor: (Oct. ASTM):		
72-74 oct.	8 – 8.5	8 – 8.5
67-69 oct.	7.5 – 7.75	7.5 – 7.75
Str. run gasoline, excluding Detroit shpt.	4.75 – 6	4.75 – 6.25
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
72-74 oct.	8.375	8.375
CALIFORNIA U.S. Motor:		
58-61 grav., 375-400 e.p., 65 oct. & above	5 – 8	5.25 – 8
54-58 grav., for outside state shipment	4.25 – 7	4.5 – 7
54-58 grav., for instate shipment	4.25 – 7	4.5 – 7

Kerosine, Gas & Fuel Oils

Prices Effective	Feb. 16	Feb. 9
OKLAHOMA		
41-43 grav. w.w.	4.375 – 4.75	4.375 – 4.75
42-44 grav. w.w.	4.5 – 4.625	4.5 – 4.625
Range Oil	4 – 4.375	4 – 4.375
No. 1 P.W.	3.875 – 4.25	3.875 – 4.25
No. 1 straw	3.5 – 4	3.5 – 4
No. 2 straw	3.625 – 4.125	3.625 – 4.125
No. 3 fuel	3.5	3.5
U.G.I. Gas Oil	3.625 (1)	3.625 (1)
No. 6 fuel	$0.90 (1)	$0.90 (1)
14-16 fuel	$0.95 (2)	$0.95 (2)
MID-WESTERN (Group 3 basis)		
41-43 grav. w.w.	4.375 – 4.75	4.375 – 4.75
42-44 grav. w.w.	4.5–4.625 (2)	4.5 – 4.7
Range Oil	4 (1)	4 – 4.2 (2)
No. 1 p.w.	3.875 – 4.125	3.875 – 4.125
No. 2 straw	3.625 – 3.8	3.625 – 3.8
No. 3	3.5 – 3.6	3.5 – 3.7
No. 5	$0.85 (1)	$0.85 (1)
No. 6	$0.85 (1)	$0.85–$0.875 (2)
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
41-43 grav. w.w.	4.25 – 4.75	4.25 – 4.75
No. 1 P.W.	4.2 (2)	4.2 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
41-43 grav. w.w.	No Price	No Price
No. 1 straw	4.3 (1)	4.3 (1)
KANSAS (For Kansas destinations only)		
41-43 grav. w.w.	No Price	4.7 (1)
42-44 gravity w.w.	4.8–4.875 (2)	4.8 – 4.875
No. 1 p.w.	4.2–4.25 (2)	4.2 – 4.3
No. 6 fuel	$0.90 (1)	$0.90–$0.925 (2)

REFINERY PRICES (Continued)

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown: bids reported in market leads.

Kerosine, Gas & Fuel Oil

(Continued)

Prices Effective	Feb. 16	Feb. 9
ARK. (For shipment to Ark. and La.)		
41-43 grav. w.w.	4.625 (1)	4.625 (1)
No. 1	4 (1)	4 (1)
No. 2	3.5 (1)	3.5 (1)
No. 3 fuel	3.5 (1)	3.5 (1)
Tractor fuel, for shpt. to Ark. points only	5.125 (1)	5.125 (1)
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.	6 – 6.25	6 – 6.25
46 grav. w.w.	6.375 (1)	6.375 (1)
No. 1 fuel	6.125 – 6.25	6.125 – 6.25
No. 2 "	6 – 6.25	6 – 6.25
No. 3 "	6 – 6.25 (2)	6 – 6.25 (2)
36-40 gravity	6 (1)	6 (1)
Other districts:		
45 grav. w.w.	6.125 – 6.25	6.125 – 6.25
46 grav. w.w.	6.125 – 6.25	6.25 – 6.375
47 grav. w.w.	6.25 – 6.375	6.25 – 6.5
No. 1 fuel	5.625 – 5.875	5.625 – 5.875
No. 2 "	5.375 – 5.875	5.375 – 5.875
No. 3 "	5.375 – 5.875	5.375 – 5.875
36-40 grav., Pittsburgh dist. prices excluded	5.25 – 5.5	5.25 – 5.5
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
47-49 gravity w.w.	5.6 – 6	5.6 – 6
P.W. Distillate	5.5 – 6	5.5 – 6
No. 3 gas oil, Straw.	5 – 5.625	5 – 5.625
U.G.I. gas oil	4.5–4.875 (2)	4.5–4.875 (2)
Fuel Oils (Vis. at 100°).		
300-500 Vis.	4 – 4.25 (2)	4 – 4.25 (2)
100-300 Vis.	4.5 (1)	4.5 (1)
OHIO (S. O. Ohio quotations for statewide delivery)		
Kerosine	7	7
CALIFORNIA		
40-43 grav. w.w.	4.5 – 6	4.5 – 6
San Joaquin Valley:		
Heavy fuel	$0.75 –$0.85	$0.75 –$0.85
Light fuel	$0.75 –$0.85	$0.75 –$0.85
Diesel fuel	2.75 – 4	2.75 – 4
Stove dist.	2.75 – 4	2.75 – 4
Los Angeles:		
Heavy fuel	$0.75 –$0.85	$0.75 –$0.85
Light fuel	$0.75 –$0.85	$0.75 –$0.85
Diesel fuel	2.75 – 4	2.75 – 4
Stove dist.	2.75 – 4	2.75 – 4
San Francisco:		
Heavy fuel	$0.85	$0.85
Light fuel	$0.95	$0.95
Diesel fuel	4.5	4.5
Stove dist.	5.5	5.5

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Lubricating Oils

WESTERN PENNA.

Prices are for sales made, or offers reliably reported, to jobbers & compounders only.

Viscous Neutrals—No. 3 col. Vis. at 70° F.

200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	40.5 (1)	40.5 (1)
10 p.t.	39.5 (1)	39.5 (1)
15 p.t.	38.5 (1)	38.5 (1)
25 p.t.	33	33
150 Vis. (143 at 100) 400-405 fl.		
0 p.t.	38.5 (1)	38.5 (1)
10 p.t.	37.5 (1)	37.5 (1)
15 p.t.	36.5 (1)	36.5 (1)
25 p.t.	31	31
Cylinder Stocks		
Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col.		
10 p.t.	30.5 (1)	30.5 (1)
15 p.t.	29.5 (1)	29.5 (1)
25 p.t.	25	25
600 S.R. filterable	15	15–16
650 S.R.	15.5	15.5–16.5
600 fl.	16	16–17
630 fl.	17	17–17.5

MID-CONTINENT (F. o. b. Tulsa)

Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)

Pale Oils:

Vis. Color		
60-85—No. 2	8 – 8.5	8 – 8.5
86-110—No. 2	8.5 – 8.75	8.5 – 8.75
150—No. 3	14.5	14.5
180—No. 3	15	15
200—No. 3	15–15.5	15–15.5
250—No. 3	16.5	16.5
280—No. 3	17–17.5	17–17.5
300—No. 3	18–18.5	18–18.5

Lubricating Oils (Cont'd)

Prices Effective	Feb. 16	Feb. 9
Red Oils:		
180—No. 5	15 (1)	15 (1)
200—No. 5	15 (1)	15–15.5 (2)
280—No. 5	No Price	17.5 (1)
300—No. 5	17.5 (2)	17.5–18.5

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p., generally are quoted 0.25c under 0-10 p.p. oils.

Bright Stock—Vis. at 210°		
200 Vis. D	27 (1)	27 (1)
150-160 Vis. D:		
0 to 10 p.p.	23–23.5	23–23.5
10 to 25 p.p.	22.5–23	22.5–23
25 to 40 p.p.	23 (1)	23 (1)
150-160 Vis. E	22 (2)	22–22.5
120 Vis. D:		
0 to 10 p.p.	22 (2)	22–22.5
600 S.R. Dark Green	9.5 (1)	9–9.5 (2)
600 S.R. Olive Green	10.5–11	10–11
631 S.R.	18.5 (1)	18.5 (1)
Black Oil	5.5 (1)	5.5 (1)

SOUTH TEXAS Neutral Oils

Vis. Color		
Pale Oils: (*Vis. at 100° F.*)		
100 No. 1½-2½	6.5	6.5
200 No. 2-3	8.75	8.75
300 No. 2-3	9.25	9.25
500 No. 2½-3½	10	10
750 No. 3-4	10.25	10.25
1200 No. 3-4	10.375	10.375
2000 No. 4	10.5	10.5
Red Oils:		
100 No. 5-6	6.5 (2)	6.5 (2)
200 No. 5-6	8.75	8.75
300 No. 5-6	9.25	9.25
500 No. 5-6	10	10
750 No. 5-6	10.25	10.25
1200 No. 5-6	10.375	10.375
2000 No. 5-6	10.5–11.5	10.5–11.5

CHICAGO (From Mid-Continent p.l. crude.)

Neutral oils (Vis. at 100° F. 0 to 10 p.p.)

Pale Oils

Vis. Color		
60-85—No. 2	9.5 (1)	9.5 (1)
86-110—No. 2	10 (1)	10 (1)
150—No. 3	15.5 (1)	15.5 (1)
180—No. 3	16 (1)	16 (1)
200—No. 3	16 (1)	16 (1)
250—No. 3	17 (1)	17 (1)
Red Oils:		
180—No. 5	16 (1)	16 (1)
200—No. 5	16 (1)	16 (1)
250—No. 5	17 (1)	17 (1)
280—No. 5	18 (1)	18 (1)
300—No. 5	18.5 (1)	18.5 (1)

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined: (Viscosity at 210°)		
140	11.5 (1)	11.5 (1)
160	12.5 (1)	12.5 (1)
200	13.5 (1)	13.5 (1)
Bright stocks, 160 vis. at 210 No. 8 color:		
0 to 10 p.p.	24 (1)	24 (1)
15 to 25 p.p.	23.5 (1)	23.5 (1)
30 to 40 p.p.	21.5 (1)	21.5 (1)
E filtered Cyl. Stock	15.5 (1)	15.5 (1)

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3

Grade 26-70 . . . . . 3–3.125 (Sales) 3.5-3.625 (Sales)

FOB BRECKENRIDGE

Grade 26-70 . . . . . 2.5 (Sales) 3.25 (Qtns.)

CALIFORNIA (FOB plants in Los Angeles basin)

75-85, 350-375 e.p. for blending	4.75 – 5	4.75 – 5.5

Naphtha and Solvent

Prices Effective	Feb. 16	Feb. 9
(FOB Group 3)		
Stoddard solvent	6.625	6.625
Cleaners' naphtha	7.125	7.125
V. M. & P. naphtha	7.125	7.125
Mineral spirits	6.125	6.125
Rubber solvent	7.125	7.125
Lacquer diluent	7.375–8.125	7.375–8.125
Benzol Diluent	7.875–8.625	7.875–8.625
WESTERN PENNA.		
Untreated naphtha	7 (2)	7 (2)
Stoddard solvent	7.25 – 7.5	7.25 – 7.5
OHIO (S. O. Ohio quotations for statewide delivery): V.M.&P. naphtha, D.C. naphtha, Varnolene & Sohio solvent	10	10
Rubber solvent	9	9

Wax

White Crude Scale:

WESTERN PENNA. (Bbls. C.L.)		
122-124 A.m.p.	4.25	4.25
124-126 A.m.p.	4.25	4.25

OKLAHOMA (C.L., FOB Refinery)

Semi-refined:

128 AMP min., white, 50 kilo bags	No Price	.....
132-134 AMP. bbls.	5.25 (1)	.....

CHICAGO (FOB Chicago district refinery of one refiner, in bags, carloads. Carloads, slabs loose 0.4c less. Melting points are EMP (ASTM) methods; add 3° to convert into AMP.)

Fully refined:

122-124 (bags only)	5.6	5.6
125-127	6	6
127-129	6.25	6.25
130-132	6.55	6.55
132-134	6.8	6.8
135-137	7.55	7.55

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)		
Snow White	6.125–7.25	6.125–7.25
Lily White	5.375–6.125	5.375–6.125
Cream White	4.375–5.375	4.375–5.375
Light Amber	3.375–3.875	3.375–3.875
Amber	3.125–3.625	3.125–3.625
Red	3 – 3.5	3 – 3.5

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

	Gasoline Kerosine		Distillate-Gas Oil-Fuel Oil	
	Cents per Cwt.	Cents per gal. 6.6 lbs.	Cents per Cwt.	Cents per gal. 7.4 lbs.
Chicago, Ill.	36	2.376	32	2.368
Decatur, Ill.	32	2.112	31	2.294
Joliet, Ill.	36	2.376	32	2.368
Peoria, Ill.	33	2.178	31	2.294
Quincy, Ill.	31	2.046	29	2.146
Indianapolis, Ind.	38	2.508	39	2.886
Evansville, Ind.	35	2.310	37	2.738
South Bend, Ind.	44	2.904	**42	**3.108
Detroit, Mich.	64	4.224	51	3.774
Grand Rapids, Mich.	55	3.630	**50	**3.700
Saginaw, Mich.	66	4.356	53	3.922
Green Bay, Wis.	41	2.706	41	3.034
Milwaukee, Wis.	39	2.574	34.5	2.553
LaCrosse, Wis.	37	2.442	37	2.738
Minneapolis-St. Paul.	37	2.442	37	2.738
Duluth, Minn.	41	2.706	41.5	3.071
Mankato, Minn.	37	2.442	37	2.738
Des Moines, Ia.	29	1.914	29	2.146
Davenport, Ia.	33	2.178	31	2.294
Mason City, Ia.	34	2.244	33.5	2.479
St. Louis, Mo.	29	1.914	26.5	1.961
Kansas City, Mo.	22	1.452	22.5	1.665
St. Joseph, Mo.	25	1.650	22.5	1.665
Fargo, N. D.	51	3.366	50.5	3.737
Huron, S. D.	43	2.828	42.5	3.145
Wichita				
From Ponca City	7.5	*0.495	7.5	†0.555
From Tulsa	12.5	*0.825	12.5	†0.925
From Cushing	11	*0.726	11	†0.814

*This rate also includes distillate rate at 6.6 lbs. per gal.

**This rate applies only to residual fuel and gas oil.

†This rate is exclusive of distillate which is based on 6.6 lbs. per gal. from Ponca City, Tulsa and Cushing, Okla., to Wichita. Includes only gas oil and fuel oil.

NOTE: There is no Group 3 rate to Wichita, Kans.

SEABOARD PRICES EXPORT AND COASTWISE

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators FOB their terminals)—Prices Effective Feb. 16

MOTOR GASOLINE

District:	Min. 80 Oct. '39 Research (Max. 2 cc. Lead)	72-74 Oct. (ASTM)	68-70 Oct. (ASTM)
N. Y. Harb.	8.8 – 9.3	8.3	8.3 (1)
N. Y. Harb., barges	8.8	8.2 – 8.3	8.2 (1)
Albany	8.4 – 9.1	8.4 (1)	....
Philadelphia	8.3 – 9	8.3	8.3 – 8.5 (1)
Baltimore	8.05 – 8.8	8.05	8.05 (1)
Norfolk	7.75 – 8.3	7.8 (1)	7.7 – 7.9 (2)
Wilmington, N. C.	7.75 – 8.2	7.85 (1)	7.375 – 7.9
Charleston	7.9 – 8.2	....	....
Savannah	7.87 – 8.2	....	7.6 – 7.8 (2)
Jacksonville	7.87 – 8.2	7.875 (1)	7.6 – 7.8 (1)
Miami	7.87 – 8.2 (2)	....	....
Tampa	7.75 – 8.2	....	....
Pensacola	7.5 – 7.7 (1)	....	7.1 – 7.3 (1)
Mobile	7.37 – 7.7	....	7.1 – 7.3 (2)
New Orleans	6.75 – 7.37	6.25 – 7	....
Portland	8.6 – 8.9	8.6 – 8.9	....
Boston	8.5 – 8.8	8.5 – 8.8	8.8 (1)
Providence	8.5 – 8.8	8.5 – 8.8	....

FUEL OILS

	KEROSINE and or NO. 1 FUEL	No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	5.3	5.2	5.2	$1.65 $1.80 (a)	$1.35
N. Y. Harb., barges	5.2	5.1	5.1	....	....
Albany	5.6	5.4	5.4	$1.95 (1)	$1.55 (1)
Philadelphia	5.4 – 5.8	5.2	5.2	$1.68	$1.35
Baltimore	5.4	5.2	5.2	$1.68 (1)	$1.35
Norfolk	5.4 – 5.5	5.2 – 5.45	5.2 (2)	....	$1.35 (2)
Wilmington, N. C.	5.25 – 5.5	5.2 – 5.25	....	....	....
Charleston	5.4 – 5.5	5.2 (2)	....	....	$1.30 (2)
Savannah	5.25 – 5.5	....	....	....	$1.30 (1)
Jacksonville	5.25 – 5.5	4.75 (2)	4.75 (1)	....	$1.30 (1)
Miami	5.25 – 5.5 (2)	....	....	....	....
Tampa	5.25 – 5.5	4.75 (2)	....	....	$1.25 (1)
Pensacola	4.8 – 5 (1)	....	....	....	....
Mobile	4.75 – 5	....	....	....	....
New Orleans	4.25 – 4.875	3.875 – 4 (2)	....	$1.68 (1)	$0.85 (2)
Portland	5.5	5.3	5.3 (2)	$1.95 (1)	$1.35 (2)
Boston	5.4	5.2	5.2 (2)	$1.65 (2)	$1.35
Providence	5.4	5.2	5.2	$1.60 $1.65	$1.35

(a) This price is for a straight-run, low pour test No. 5 fuel.

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House Gas Oil 28-34 Gravity
N. Y. Harbor	$1.35	$2.15	5.2 – 5.3 (2)	5.3 (2)
Albany	$1.55 (1)	$2.35 (1)	5.4 (2)	5.6 (1)
Philadelphia	$1.35	$2.15	....	....
Baltimore	$1.35	$2.15	5.2 (1)	5.2 (1)
Norfolk	$1.35	$2.15	5.2 (1)	5.2 (1)
Charleston	$1.30	$2.15 (2)	5.2 (1)	5.2 (1)
Savannah	$1.30 (1)	$1.99 (1)	....	....
Jacksonville	$1.30 (2)	$1.99–$2.10 (2)	....	....
Tampa	$1.25 (2)	$1.99–$2.10 (2)	....	....
New Orleans	$0.85	$1.65 (2)	4 (1)	4 (1)
Portland	$1.35 (2)	$2.25 (2)	5.3 (1)	5.4 (1)
Boston	$1.35	$2.15	5.2 (2)	5.3 (2)
Providence	$1.35	$2.15 (2)	5.2 (1)	5.3 (1)

Wax

(Melting points are AMP. 3° higher than EMP. Export prices FAS c.l. Domestic prices FOB, in bags, c.l. Scale solid; fully refined slabs.)

Prices Effective Feb. 16 (b)

Crude Scale:	New Orleans Export	N. Y. Domestic	N. Y. Export
124-6 Yellow	No Price	....	No Price
111-4 White	....	No Price	No Price
124-6 White	No Price	No Price	No Price
Fully Refined:			
123-5	No Price	5.6 (1&a)	No Price
125-7	No Price	5.6 (1&a)	No Price
128-30	No Price	6 (2)	No Price
130-32	No Price	6.25 (1)	No Price
133-5	No Price	6.55 (2)	No Price
135-7	No Price	6.8 (1)	No Price
108-11 White Match wax (tight bbls.)			No Price

(a) 0.4c discount generally given for slabs loose.
(b) These prices in effect Feb. 9 also.

Naphtha

Prices Effective Feb. 16

	V.M.&P. Naphtha	Mineral Spirits
Baltimore	10-10.5 (2)	9 – 9.5
New York Harbor	10.5 (2)	9.5
Philadelphia district	10.5 (2)	9.5
Boston	11 (2)	10
Providence	11 (1)	10 (2)*

*This price effective Feb. 2 & 9 also.

Pacific Export

(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)

Prices Effective	Feb. 16	Feb. 9
375 e.p. blend, 70 oct.	6.375 – 6.5	6.25 – 6.5
390 e.p. blend, 68 oct.	6.25 – 6.375	6.25 – 6.375
390 e.p. blend, 66 oct.	5.875 – 6	5.875 – 6
400 e.p. blend, 65 oct. min.	5.875 – 6	5.875 – 6
U. S. Motor, under 65 octane	5.625	5.625
38-40 grav. w.w. kero., 150 fire point	4.5 – 5	4.5 – 5
41-43 grav., w.w. kero.	4.75 – 5	4.75 – 5
44-grav. w.w. kero	5 – 5.5	5 – 5.5
Diesel fuel, 24 & above	$1.25 – $1.35	$1.25 – $1.30
Diesel fuel, under 24	$1.15 – $1.25	$1.15 – $1.25
30-34 grav. diesel (gas oil) Pac. Spec. 200	$1.25 – $1.35	$1.25 – $1.35
Grade C fuel, Pac. Spec. 400	$0.85 – $0.90	$0.85 – $0.90
In Ship's Bunkers, or deep tank lots:		
Diesel fuel, Pac. Spec. 200	$1.35 – $1.45	$1.35 – $1.45
Grade C fuel, Pac. Spec. 400	$0.85 – $0.90	$0.85 – $0.90
Cased Goods: (Per case)		
375-400 e.p. blend, 65 oct. & above	$1.50 – $1.60	$1.50 – $1.60
400 e.p. blend, under 65 oct.	$1.40 – $1.50	$1.40 – $1.50
U. S. Motor	$1.35 – $1.45	$1.35 – $1.45
40-43 grav. w.w. kero., 150 fire point	$1.30 – $1.40	$1.30 – $1.40
Kero., p.w.	$1.25 – $1.35	$1.25 – $1.35

Tanker Rates

(Approximate last paid rates, cents per bbl; Gulf-N. Atlantic, not East of N. Y.)

Hvy. Crude & Fuel (10 to 19.9 gravity)	48
Light Crude, (30 grav. or Lighter)	43
Gasoline	40
Kerosine	40
No. 2 Fuel	42

Gulf Coast

(Prices for sales made or firm offers reliably reported for sales pending in cargoes FOB ship at Gulf, for minimum of 20,000 bbls. Prices are by refiners only to other refiners, export agents, or to large tanker terminal operators at the customary trade specifications noted.)

Prices Effective Feb. 16

Domestic

Motor Gasoline	
Min. 80 oct. '39 Research, max. 2cc lead	6.25 – 6.5
60-62 Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	6 – 6.375
70 oct. unleaded "	6.25 – 6.5
68 oct. " "	6.25
65 oct. " "	5.875
60 oct. " "	5.625
41-43 w.w. kerosine	4 – 4.375
No. 2 fuel	4
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	3.75
43-47 " "	4.125
48-52 " "	4.125
53-57 " "	4.25
58 & above diesel index	4.375
Diesel Oil, ship's bunkers (ex-lighterage)	$1.65 – $1.80
Bunker C, " "	$0.85 $0.95
Bunker C, cargoes	$0.85

Export

Motor Gasoline	
60-62 Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	6 – 6.375
70 oct. unleaded "	6.25 – 6.5
68 oct. " "	6.25
65 oct. " "	5.875
60 oct. " "	5.625
41-43 w.w. kerosine	4 – 4.375
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	3.75
43-47 " "	4.125
48-52 " "	4.125
53-57 " "	4.25
58 & above diesel index	4.375

MID-CONTINENT LUBES

(At Gulf; in packages, FAS.; in bulk, FOB terminals)

	Feb. 16 Steel Drums	Bulk
200 vis. D 210 brt. stock	34-35 (2)	28.8 (2)
150 vis. D 210 brt. stock 0-10 p.p.	30-31 (2)	24.8 (2)
10-25 p.p.	29.5 (1)	24.3 (1)
100 vis. D 210 brt. stock 0-10 p.p.	29.5 (1)	24.3 (1)
10-25 p.p.	29 (1)	23.8 (1)
200 vis. No. 3 col. neutral: 0-10 p.p.	22 (1)	16.8 (1)

SOUTH TEXAS LUBES

(Vis. at 100°, c. t. 0, blk. exprt. shp., FOB terminals)

Unfiltered Pale Oils: Vis.	Color	Feb. 16	Feb. 9
100	No. 3	6.25–6.5 (2)	6.25–6.5 (2)
200	No. 3	7.75–8.75 (2)	7.75–8.75 (2)
300	No. 3	8.25–9.25 (2)	8.25–9.25 (2)
500	No. 3½	9.25–10.25 (2)	9.25–10.25 (2)
750	No. 4	9.75–11 (2)	9.75–11 (2)
1200	No. 4	10.25–11.5 (2)	10.25–11.5 (2)
2000	No. 4	12.5 (1)	12.5 (1)

Red Oils: Vis.	Color		
100	No. 5-6	6.5 (1)	6.5 (1)
200	No. 5-6	7.75–8.75 (2)	7.75–8.75 (2)
300	No. 5-6	8.25–9.25 (2)	8.25–9.25 (2)
500	No. 5-6	9.25–10.25 (2)	9.25–10.25 (2)
750	No. 5-6	9.75–11 (2)	9.75–11 (2)
1200	No. 5-6	10.25–11.5 (2)	10.25–11.5 (2)
2000	No. 5-6	11–12.5 (2)	11–12.5 (2)

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include* 1.5c *federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect Feb.* 16, 1942 *as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J.	9.3	9.8	4.5	7.9
*Newark, N. J.	9.3	9.8	4.5	7.9
Annapolis, Md.	9.65	10.15	5.5	9.7
Baltimore, Md.	9.05	9.55	5.5	8.7
Cumberland, Md.	10.45	10.95	5.5	10.2
Washington, D. C.	9.3	9.8	4.5	9.2
Danville, Va.	10.75	11.25	6.5	10.45
Norfolk, Va.	9.55	10.05	6.5	10.2
Petersburg, Va.	9.85	10.35	6.5	11.2
Richmond, Va.	9.85	10.35	6.5	11.2
Roanoke, Va.	11.05	11.55	6.5	10.7
Charleston, W. Va.	11.35	11.85	6.5	11.5
Parkersburg, W. Va.	10.65	11.15	6.5	11.2
Wheeling, W. Va.	10.65	11.15	6.5	11.8
Charlotte, N. C.	11.2	11.7	7.5	9.5
Hickory, N. C.	11.75	12.25	7.5	10.5
Mt. Airy, N. C.	11.6	12.1	7.5	9.7
Raleigh, N. C.	10.95	11.45	7.5	10.5
Salisbury, N. C.	11.25	11.75	7.5	10.9
Charleston, S. C.	10.05	10.55	7.5	....
Columbia, S. C.	10.9	11.4	7.5	....
Spartanburg, S. C.	11.6	12.1	7.5	....

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J.	12.5	14
Baltimore, Md.	15	..
Washington, D. C.	15	..

Fuel Oils—T.W.	No. 1	No. 2	No. 3
Atlantic City, N. J.	7.9	7.2	7.2
Newark	7.9	7.2	7.2
Annapolis, Md.	..	7.45	..
Baltimore	7.7	7.2	7.2
Washington, D. C.	8.2	7.6	7.6
Norfolk, Va.	7.9	7.7	7
Petersburg	8.2	7.2	..
Richmond	8.2	7.2	7.2
Charlotte, N. C.	8.5	8.6	..
Hickory	..	8.2	..
Raleigh	9.5	8.3	..
Charleston, S. C.	..	7.2	..
Columbia	..	8.2	..
Spartanburg	..	9	..

*Effective Jan. 23, '42, minimum retail resale price of 13.3c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Kerosine—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphthas—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price; Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Socony-Vacuum Oil Co., Inc.

Socony Mobilgas (*Regular Grade*)

	Com. Cons. T.W.	Undiv. Dlr. T.W.	Gasoline Taxes
New York City			
Manhattan & Bronx	9.2	9.7	*5.5
Kings & Queens	9.2	9.7	*5.5
Richmond	8.8	9.3	*5.5
Albany, N. Y.	9	9.5	5.5
Binghamton, N. Y.	10.1	10.6	5.5
Buffalo, N. Y.	9.3	9.8	5.5
Jamestown, N. Y.	9.5	10	5.5
Mt. Vernon, N. Y.	9.2	9.7	5.5
Plattsburg, N. Y.	10.1	10.6	5.5
Rochester, N. Y.	9.9	10.4	5.5
Syracuse, N. Y.	9.6	10.1	5.5
Bridgeport, Conn.	9.1	9.6	4.5
Danbury, Conn.	9.6	10.1	4.5
Hartford, Conn.	9.7	10.2	4.5
New Haven, Conn.	9.1	9.6	4.5
Bangor, Me.	9.8	10.3	5.5
Portland, Me.	9.4	9.9	5.5
Boston, Mass.	9	9.5	4.5
Concord, N. H.	10.5	11	5.5
Lancaster, N. H.	11.1	11.6	5.5
Manchester, N. H.	10.4	10.9	5.5
Providence, R. I.	9.1	9.6	4.5
Burlington, Vt.	10	10.5	5.5
Rutland, Vt.	10.1	10.6	5.5

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y.	11.9	13.1
New York City	10.5	11.5
Rochester, N. Y.	12.7	13.9
Syracuse, N. Y.	13.5	....
Boston, Mass.	11.5	12.5
Bridgeport, Conn.	†15.8	†16.8
Hartford, Conn.	†15.8	†16.8
Providence, R. I.	12.5	13.5

	Kerosine Yard	Kerosine TW	Mobilfuel Diesel TC	Mobilfuel Diesel TW	Mobilheat Fuel Yard	Mobilheat Fuel TW
New York:						
Manhat'n & Bronx	5.6	8	...	7.5	5.5	7.2
Kings & Queens	5.6	8	...	7.5	5.5	7.2
Richmond	5.5	8	...	...	5.4	7
Albany	5.8	7.8	5.6	7.6	5.6	7.3
Binghamton	7.1	9.1	...	8.9	6.9	8.4
Buffalo	6.8	8.8	6.7	8.7	6.7	8.2
Jamestown	6.9	8.9	...	8.8	6.8	8.2
Mt. Vernon	5.7	8.2	...	7.6	5.6	7.2
Plattsburg	6.3	8.3	...	8.1	6.1	7.6
Rochester	6.9	8.9	6.4	8.4	6.4	7.9
Syracuse	6.7	8.7	6.3	8.3	6.3	7.8
Conn.:						
Bridgeport	5.8	...	...	...	5.7	7
Danbury	6.3	...	...	...	6	7
Hartford	5.8	...	...	7.7	5.7	7.2
New Haven	5.6	...	...	7.5	5.5	7.1
Maine:						
Bangor	6.1	8.1	5.9	7.9	5.9	7.4
Portland	5.7	8.1	5.5	7.5	5.5	7.2
Mass.:						
Boston	5.8	8	5.4	7.4	5.6	7.2
N. H.:						
Concord	6.6	8.6	...	...	6.7	8.2
Lancaster	7.7	9.7	...	...	7.7	9.2
Manchester	6.7	9	...	...	6.4	7.9
R. I.:						
Providence	5.8	7.8	5.4	7.4	5.6	7.1
Vermont:						
Burlington	6.3	...	6.1	8.1	6.1	7.6
Rutland	6.5	...	...	8.2	6.2	7.7

*Does not include 1% city sales tax applicable to price of gasoline (ex tax).

†In steel barrels.

Discounts: Diesel—On t.w. deliveries, 0.5c for at least 400 gals.; 1c for full tank truck.

Atlantic Refining

Atlantic White Flash Gasoline (*Regular Grade*)

	Commercial T.W	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa.	9.3	9.8	5.5	10.15
Pittsburgh	9.8	10.3	5.5	10.5
Allentown	9.8	10.3	5.5	10.5
Erie	9.8	10.3	5.5	10.5
Scranton	9.8	10.3	5.5	10.5
Altoona	9.8	10.3	5.5	10.5
Emporium	9.8	10.3	5.5	10.5
Indiana	9.8	10.3	5.5	10.5
Uniontown	9.8	10.3	5.5	10.5
Harrisburg	9.8	10.3	5.5	10.5
Williamsport	9.8	10.3	5.5	10.5
Dover, Del.	..	10.3	5.5	10.5
Wilmington, Del.	..	9.8	5.5	10
Boston, Mass.	..	10	4.5	8
Springfield, Mass.	..	10.9	4.5	8.9
Worcester, Mass.	..	10.6	4.5	8.5
Fall River, Mass.	..	10.1	4.5	9
Hartford, Conn.	..	10.7	4.5	7.9
New Haven, Conn.	..	10.1	4.5	9
Providence, R. I.	..	10.1	4.5	8.6
Atlantic City, N. J.	..	9.8	4.5	7.9
Camden, N. J.	..	9.8	4.5	7.9
Trenton, N. J.	..	9.8	4.5	7.9
Annapolis, Md.	..	10.15	5.5	8.7
Baltimore, Md.	..	9.55	5.5	7.7
Hagerstown, Md.	..	10.65	5.5	8.2
Richmond, Va.	..	10.35	6.5	10.2
Wilmington, N. C.	..	10.65	7.5	9.8
Brunswick, Ga.	..	10	7.5	*9
Jacksonville, Fla.	..	10	8.5	10

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa.	10.5	12
Lancaster, Pa.	11.5	13
Pittsburgh, Pa.	12.5	12.5

Fuel Oils—T.W.	1	2	3	5	6
Phila., Pa.	8	7.2	7.2	4.75	3.75
Allentown, Pa.	8.5	7.5	7.5	....	....
Wilmington, Del.	8	7.2	7.2	....	....
Springfield, Mass.	8.9	7.6	7.6	....	....
Worcester, Mass.	8.5	7.5	7.5	....	....
Hartford, Conn.	7.9	7.2	7.2	....	....

*Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w., except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

S. O. Ohio††

***Sohio X-70 Gasoline (*Regular Grade*)**

	Consumer T.W.	**Reselers	‡S.S.	Gasoline Taxes	†Kerosine T.W.
Ohio, Statewide	12	10	13.5	5.5	9
Akron	12	9.5	12	5.5	9
Cincinnati	12	9.5	12.5	5.5	9
Cleveland	12	9.5	12.5	5.5	9
Columbus	12	9.5	12.5	5.5	9
Dayton	12	9.5	12.5	5.5	9
Marietta	12	9.5	12.5	5.5	9
Portsmouth	12	9.5	12.5	5.5	9
Toledo	12	9.5	12.5	5.5	9
Youngstown	12	9.5	12.5	5.5	9

Aviation Gasoline—Statewide

	Consumer T.W.	Gasoline Taxes
Sohio Aviation	14.5	5.5
Esso Ethyl Aviation 74 Oct.	15.5	5.5
Esso Ethyl Aviation 80 Oct.	16.5	5.5
Esso Ethyl Aviation 91 Oct.	17.5	5.5
Esso Ethyl Aviation 100 Oct.	24.5	5.5

	†Naphtha—T.W. Statewide	Lucas County
S. B. Solvent	13.5	13.5
D. C. Naphtha	14.5	14.25
V.M.&P. Naphtha	14.5	14.25
Varnolene	14.5	14.25
Sohio Solvent	14.5	14.25

Fuel Oils—T.W.	No. 1	No. 2	No. 3	No. 4
Ohio, Statewide	8	8	7.5	....
Cleveland	10	10	9.5	7.25

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

**Except authorized agents.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Statewide prices are subject to exceptions other than those shown.

Discounts:

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Fuel oils—Statewide prices are for t.w. & drum deliveries of 50 gals. or more; prices for deliveries of less than 50 gals. are 0.5c higher. Cleveland Nos. 1, 2, and 3 prices are for bulk deliveries of 5 to 99 gals.; 100 gals. and over are 2c less. Cleveland No. 4 price is for full compartment hose dump only.

Naphthas—to contract consumers off t.w. prices—Statewide: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c. Lucas County: Less than 50 gals., tank wagon price; 50 to 249 gals., 0.5c; 250 to 499 gals., 1c; 500 gals. or over, 1.5c.

S. O. Kentucky

Crown Gasoline (*Regular*)
Standard (*Third Grade*)

	†Net Dealer Crown	Standard	Gasoline Taxes	Kerosine T.W.
Covington, Ky.	9.5	8.5	6.5	9
Lexington, Ky.	11	8.5	6.5	9
Louisville, Ky.	10.5	9.5	6.5	8.5
Paducah, Ky.	8	8	6.5	8.5
Jackson, Miss.	10.5	9.5	7.5	*8.5
Vicksburg, Miss.	10	9	7.5	*8
Birmingham, Ala.	10.5	9.5	*8.5	9
Mobile, Ala.	9.5	7.5	*9.5	8.5
Montgomery, Ala.	10.5	9.5	*9.5	*9
Atlanta, Ga.	10	....	7.5	*9
Augusta, Ga.	11	....	7.5	*8.5
Macon, Ga.	11	....	7.5	*8.5
Savannah, Ga.	10	....	7.5	*8
Jacksonville, Fla.	10	9	8.5	8
Miami, Fla.	10	9	8.5	8
Pensacola, Fla.	9.5	8.5	*9.5	8
Tampa, Fla.	10	....	8.5	8

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices.

S. O. Indiana

Red Crown (*Regular Grade*)
Blue Crown (*Third Grade*)

	Dealer Prices				
	Red Crown Cons. T.W.	Red Crown	Blue Crown	Gasoline Taxes	Kerosine T.W.
Chicago, Ill.	11.6	9.6	8.5	4.5	10.3
Decatur, Ill.	10.9	8.9	8	4.5	9.5
Joliet, Ill.	11.9	9.6	8.5	4.5	10.3

(Continued on next page)

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon:
Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1/8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 24 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c; Missouri 1/50c; Nebraska 3/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1/8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.
Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect Feb. 16, 1942 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. Indiana (Cont'd)

Red Crown (*Regular Grade*)
Blue Crown (*Third Grade*)
Dealer Prices

	Red Crown Cons. T.W.	Red Crown	Blue Crown	Gasoline Taxes	Kerosine T.W.
Peoria, Ill	11.7	9.2	9.1	4.5	10.1
Quincy, Ill	8.9	7.9	7.9	4.5	10
Indianapolis, Ind	11.6	9.7	9.6	5.5	*9.8
Evansville, Ind	11.4	9.9	8.4	5.5	*9.6
South Bend, Ind	12	10.5	10	5.5	*10.2
Detroit, Mich	11.4	9.9	9.4	4.5	9.6
Grand Rapids, Mich	11.4	9.3	9	4.5	9.6
Saginaw, Mich	11.4	9.9	9.4	4.5	9.6
Green Bay, Wis	12.2	10.7	9.7	5.5	10.6
Milwaukee, Wis	12.1	10.6	10.1	5.5	10.5
La Crosse, Wis	11.9	10.4	9.9	5.5	10.3
Minneapolis-St. Paul	11.9	9.9	9.5	5.5	10.3
Duluth, Minn	12.2	10.7	10.2	5.5	10.6
Mankato, Minn	11.9	10.4	9.5	5.5	10.3
Des Moines, Ia	11.4	9.9	9.4	4.5	*9.8
Davenport, Ia	11.7	10.2	9.7	4.5	*10.1
Mason City, Ia	11.7	10.2	9.7	4.5	*10.1
St. Louis, Mo	10.3	8.8	8.6	*4.5	9.8
Kansas City, Mo	10.4	8.9	7.9	*4.5	9.4
St. Joseph, Mo	11.2	9	8	*4.5	9.6
Fargo, N. D	12.9	11.4	10.5	5.5	11.3
Huron, S. D	12.3	10.8	10.3	5.5	10.7
Wichita, Kans	10.3	8.2	6.5	4.5	8

Stanavo Aviation 73 Octane

Chicago, Ill	15.7	4.5
Milwaukee, Wis	15.9	5.5
Minneapolis, Minn	15.7	5.5
St. Louis, Mo	15.2	*4.5
Kansas City, Mo	14.8	*4.5
Fargo, N. D	16.7	5.5
Huron, S. D	16.1	5.5

	Oleum Spirits	V.M.&P. Naphtha	Stanisol	*Taxes
	(Prices are base prices before discounts)			
Chicago	13.5	13.8	12.8	4.5
Detroit	15.8	15	16.3	4.5
K. C., Mo	13.3	14.3	13.8	1.5
St. Louis, Mo	13.7	14.7	13.2	1.5
Milwaukee	14.4	15.4	14.9	5.5
Minneap'ls	14.2	15.2	13.5	5.5

Fuel Oils T. W.

Chicago	Standard Heater Oil
1-99 gals	9
100-149 gals	8
150 gals. & over	7.5

	Stanolex Fuel Oil No. 1	Stanolex Furnace Oil
1-99 gals	8.5	8.5
100-149 gals	7.5	7.5
150-399 gals	7.5	7.5
400 gals. & over	7	7

	Stanolex Fuel Oil A	Stanolex Fuel Oil B
1-99 gals	8	8
100-399 gals	7	7
400-749 gals	6	6
750 gals. & over	5.25	5.25

	Stanolex Bunker C Fuel Oil
1-399 gals	6.5
400-999 gals	5.5
1000 gals. & over	4.5

Other Points: Indianapolis	Stanolex No. 1	Stanolex Furnace Oil
1-99 gals	....	*8.7
100 gals. & over	....	*7.7
Detroit		
1-99 gals	....	7.8
100 gals. & over	....	6.8
Milwaukee		
1-99 gals	....	8.7
100 gals. & over	....	7.7
Minneapolis		
1-99 gals	....	8.5
100 gals. & over	....	7.5
St. Louis		
1-99 gals	8.3	7.8
100 gals. & over	7.3	6.8
Kansas City		
1-99 gals	....	7.6
100 gals. & over	....	6.6

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax; Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1.5c federal tax and state taxes.

S. O. Nebraska

(*Regular Grade*)

	T.W. Dealer	Gasoline Taxes	Kerosine T.W.
Omaha	11.4 8.9	6.5	9.8
McCook	12 9.4	6.5	9.5
Norfolk	11.9 10.4	6.5	10.3
North Platte	11 9.9	6.5	10
Scottsbluff	12.4 9.5	6.5	9.5

S. O. Louisiana

Esso Gasoline (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
New Orleans, La	8.75	9.25	8.5	*9.5
Baton Rouge, La	8.75	9.25	8.5	*9.5
Alexandria, La	8.75	9.25	8.5	*9.5
Lafayette, La	9	9.5	8.5	*9
Lake Charles, La	9	9.5	8.5	*11
Shreveport, La	8.5	9	8.5	*8
Knoxville, Tenn	11.5	12	8.5	12.5
Memphis, Tenn	8.75	9.25	8.5	10.5
Chattanooga, Tenn	10.5	11	8.5	11
Nashville, Tenn	10.5	11	8.5	10
Bristol, Tenn	9.75	10.25	8.5	12
Little Rock, Ark	9.5	10	8	10

*Louisiana kerosine prices are ex 1c state tax.
Discounts:
Esso Gasoline—To undivided dealers, 0.5c off dealer t.w.

Humble Oil & Refining Co.

Humble Motor Fuel (*Regular Grade*)
Thriftane (*Third Grade*)

	Humble *Tank Wagon	Humble Retail	Thriftane *Tank Wagon	Thriftane Retail	Gasoline Taxes
Dallas, Tex	8.5†	10.5	7.5†	8.5	5.5
Ft. Worth, Tex	8.5††	10.5	7.5‡	9	5.5
Houston, Tex	8.5	12.5	7.5	10.5	5.5
San Antonio, Tex	8.5	12.5	7.5	10.5	5.5

	Kerosine *Tank Wagon	Retail
Dallas, Tex	7	11
Ft. Worth, Tex	7	11
Houston, Tex	8	11
San Antonio, Tex	7	10

74 Oct. Aviation Gasoline, Clear	Tank Car
FOB Baytown, Tex	8.5

*To all classes of dealers & consumers.
†Less 1c allowance to dealers only.
‡Less 1½c allowance to dealers only.
††Less 2c allowance to dealers only.

The Texas Co.

	Gasoline—Dealer Fire-Chief (*Regular*)	T.W. Indian (*3rd Grade*)	Gasoline Taxes
Dallas, Tex	8.5*	7.5*	5.5
Ft. Worth, Tex	8.5*	7.5*	5.5
Wichita Falls, Tex	8.5	7.5	5.5
Amarillo, Tex	8.5	7.5	5.5
Tyler, Tex	8.5*	7.5*	5.5
El Paso, Tex	11	10.5	5.5
San Angelo, Tex	8.5	7.5	5.5
Waco, Tex	8.5*	7*	5.5
Austin, Tex	8.5	7.5	5.5
Houston, Tex	8.5	7.5	5.5
San Antonio, Tex	8.5	7.5	5.5
Port Arthur, Tex	8.5	7.5	5.5

*Less 1c temporary allowance to all dealers.

Continental Oil Co.

(N.B. Prices are Continental's "normal" prices. Prices do not reflect temporary reductions made to meet local competition)

	Conoco Bronz-z-z (*Regular*) †Tank Wagon	Demand (*3rd Grade*)	Gasoline Taxes	Kerosine T.W.
Denver, Col	11	10	5.5	11
Grand Junction, Col	12	11	5.5	12
Pueblo, Col	10.5	9.5	5.5	10.5
Casper, Wyo	11.5	10.5	5.5	12
Cheyenne, Wyo	11	10	5.5	11.5
Billings, Mont	12.5	11.5	6.5	12.5
Butte, Mont	13.5	12.5	6.5	13.5
Great Falls, Mont	12.5	11.5	6.5	12.5
Helena, Mont	13	12	6.5	13
Salt Lake City, Utah	13.5	12.5	5.5	14.5
Boise, Ida	14.1	13.1	6.5	16.5
Twin Falls, Ida	15.6	14.6	6.5	17
Albuquerque, N. M.	10.5	9.5	*7	10
Roswell, N. M	10	9	*7	9.5
Santa Fe, N. M	10.5	9.5	*7.5	10
Ft. Smith, Ark	9.5	9.25	*7	9.5
Texarkana, Ark	9	8	*5.5	9
Muskogee, Okla	9.5	8.5	7	8.5
Oklahoma City, Okla.	9.5	8.5	7	8.5
Tulsa, Okla	9.5	8.5	7	8.5

*Taxes: In gasoline tax column are included these city taxes—Albuquerque, & Roswell, 0.5c; Santa Fe, 1c. Texas 4c state tax applies within city limits of Texarkana, Ark.; Okla. 5.5c state applies within city limits of Ft. Smith, Ark.
†To consumers & dealers.
Discounts: To dealers only—Cheyenne 1.5c on Bronz-z-z & Demand.

S. O. California

Standard Gasoline (*Regular Grade*)
Flight Gasoline (*Third Grade*)

	Standard Posted Net Tank Truck	Standard Posted Retail	Flight Posted Net Tank Truck	Flight Posted Retail	Gasoline Taxes
San Francisco, Cal	10	14	9	12	4.5
Los Angeles, Cal	9.5	13.5	8.5	11.5	4.5
Fresno, Cal	11	15	10	13	4.5
Phoenix, Ariz	12	16	10	13	6.5
Reno, Nev	12	16	11	14	5.5
Portland, Ore	10.5	14.5	9.5	12.5	6.5
Seattle, Wash	10.5	14.5	9.5	12.5	6.5
Spokane, Wash	12.5	16.5	11.5	14.5	6.5
Tacoma, Wash	10.5	14.5	9.5	12.5	6.5

Std. Aviation 73

	Posted Net Tank Truck	Gasoline Taxes	Kerosine Tank Truck
San Francisco, Cal	12.5	4.5	11.5
Los Angeles, Cal	12	4.5	10
Fresno, Cal	13.5	4.5	12.5
Phoenix, Ariz	14.5	6.5	12.5
Reno, Nev	14.5	5.5	13.5
Portland, Ore	13	6.5	13.5
Seattle, Wash	13	6.5	13.5
Spokane, Wash	16	6.5	16.5
Tacoma, Wash	13	6.5	13.5

Discounts:
Resale & Commercial: T.C. deliveries 0.25c per gal. off posted net tank truck.
Commercial: Retail deliveries, and/or tank truck deliveries of less than 40 gals., 4c per gal. above posted net tank truck price for Standard Aviation and Standard Gasoline, and 3c per gal. above posted net tank truck for Flight Gasoline, except single deliveries, of less than 40 gals. to Marine trade only, which are billed at posted net tank truck price.

Canada

PRICES ON IMPERIAL OIL, LTD.
Per Imperial Gallon, which is 1.2 U. S. Gallons
3-Star Imperial Gasoline (*Regular Grade*)

	†Gasoline T.W.	*Gasoline Taxes	†Kerosine T.W.
Hamilton, Ont	17.5	11	18
Toronto, Ont	17.5	11	18
Brandon, Man	21	10	23
Winnipeg, Man	20.5	10	22.5
Regina, Sask	18	10	20
Saskatoon, Sask	20.8	10	22.8
Edmonton, Alta	18.9	10	20.9
Calgary, Alta	16	10	18
Vancouver, B. C	15	10	21
Montreal, Que	17	11	17.5
St. John, N. B	16.5	13	19
Halifax, N. S	16.5	13	19

*Includes 3c Federal, and Provincial taxes
†To dividend & undividend dealers.

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon:
Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1/8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 25 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c; Missouri 1/50c; Nebraska 3/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1/8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.
Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.

EASTERN & CENTRAL STATES FIELDS

PENNSYLVANIA GRADE

Posted by Jos. Seep Purch. Agency (Aug. 23, '41)
Bradford-Allegany $2.75
Southwest Penna. $2.40
Eureka (West Va.) $2.34
Corning, O. (May 27, '41) $1.31

Posted by The Pennzoil Co. (Aug. 23, '41)
National Transit $2.68*

Posted by Valvoline Pipe Lines (Aug. 23, '41)
Bradford (Elk & McKean Counties, Pa.) $2.75
Warren, Forest, Venango, Clarion & Butler Counties, Pa. $2.68
Alleghany, Beaver, Washington & Greene Counties, Pa. $2.40
West Virginia $2.34
Southeastern Ohio $2.30

*Applies to Cochran, Franklin, Hamilton & Doolittle districts; prices in other lower districts range down to $2.63 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co. (May 27, '41)
Midland, Midland County $1.44
Sherman $1.39

Posted by Simrall Corp. (May 27, '41)
Greendale, Porter, Vernon, Crystal & Wise $1.44
Buckeye, Bentley, Edenville, Beaverton & Monitor (sweet crude type) $1.42
Freeman, Redding, Lincoln & Winterfield $1.39
West Branch-Arenac $1.24
Hamilton-Grout $1.29

Posted by Sohio Corp. (Mich. Div.)
Traverse crude in Allegan, Kent, Ottawa & Van Buren Cos. (June 2, '41) $1.45
Trenton crude, Monroe Co. (June 2, '41) $1.39

Posted by Bay Pipe Line Corp. (May 27, '41)
Saginaw & Wise $1.44
Buckeye, Bentley & Kawkawlin $1.42
Clare $1.11
Adams (June 1, '41) $1.27

ILLINOIS-INDIANA-KENTUCKY-OHIO

Posted by Sohio Corp. (May 21, '41)
Illinois Basin, including Griffin pool $1.37
Carmi, Storms, Ill. area $1.32
Birk City, Ky. area $1.32
Corydon, Ky. area, Henderson $1.32

Posted by Ohio Oil Co. (May 21, '41)
Illinois Basin $1.37
Eastern Ill. & Western Ind. 1.22

Posted by Carter Oil Co. (May 21, '41)
Loudon, Fayette Co. Ill. $1.37

Posted by Mohawk Oil Lines, Inc. (May 21, '41)
Southern Illinois $1.37

Posted by Ashland Oil & Transp. Co.
Somerset oil in Ash. Lines, Ky.: (June 19, '41)
Big Sandy River $1.38
Kentucky River $1.43

Posted by Owensboro-Ashland Co.
Owensboro, Ky. area (May 21, '41) $1.32

Posted by S. O. Ohio (Sept. 1, '41)
Lima, O. $1.25
Cleveland, Lodi & Chatham (O.) areas $1.30

MID-CONTINENT

OKLAHOMA-KANSAS-NORTH TEXAS

(See below for companies posting and dates)

Gravity	Schedule No. 1	Schedule No. 2	Schedule No. 3
Below 21	$0.85	$0.75	$0.81
21-21.9	.87	.78	.83
22-22.9	.89	.81	.85
23-23.9	.91	.84	.87
24-24.9	.93	.87	.89
25-25.9	.95	.90	.91
26-26.9	.97	.93	.93
27-27.9	.99	.96	.95
28-28.9	1.01	.99	.97
29-29.9	1.03	1.02	.99
30-30.9	1.05	1.05	1.01
31-31.9	1.07	1.07	1.03
32-32.9	1.09	1.09	1.05
33-33.9	1.11	1.11	1.07
34-34.9	1.13	1.13	1.09
35-35.9	1.15	1.15	1.11
36-36.9	1.17	1.17	1.13
37-37.9	1.19	1.19	1.15
38-38.9	1.21	1.21	1.17
39-39.9	1.23	1.23	1.19
40 & above	1.25	1.25	1.21

Above schedules posted by:

No. 1: **S. O. Indiana** May 20, '41 in Okla. & Kans. **Sinclair-Prairie** May 20, '41 in Okla. & Kans. beginning with 25-25.9. **Continental** May 19, '41 in Okla. & Kans. beginning with Below 29 at $1.01. **Texaco** May 19, '41 in Okla. & Kans. beginning with 28-28.9.

No. 2: **Carter** May 20, '41 in Okla. **Shell** Dec. 5, '41 in Okla. & Kans. **Magnolia** May 21, '41 in Okla.

No. 3: All Dec. 11, '41: **Stanolind & Continental** in N. Tex. **Sinclair-Prairie** in N. Central Tex. **Magnolia & Texaco** in N. & N. Central Tex. **Continental, Magnolia & Sinclair-Prairie** schedules begin with Below 29 at $0.97. **Texaco** schedule begins with 28-28.9.

TEXAS & NEW MEXICO FIELDS

Posted by Humble Oil & Refining Co.

(May 21, '41, except Panhandle, Tex. July 9, '41 and W. Central Texas Dec. 11, '41)

Gravity	Refugio	Texas Gulf Coast	Miran-do	Ana-huac	Dick-inson	East Central Texas	West Central Texas	Pan-handle, Texas	W. Texas & New Mex.	Hawkins Texas
Below 20	$1.08	$1.06	$1.03	$0.98	$0.93	....	....	$0.73	$0.70	$0.80
20-20.9	1.10	1.08	1.05	1.00	.95	....	....	.75	.72	.82
21-21.9	1.12	1.10	1.07	1.02	.97	....	....	.77	.74	.84
22-22.9	1.14	1.12	1.09	1.04	.99	....	....	.79	.76	.86
23-23.9	1.16	1.14	1.11	1.06	1.01	....	....	.81	.78	.88
24-24.9	1.18	1.16	1.13	1.08	1.03	....	....	.83	.80	.90
25 & above	....	....	....	....	....	....	....	....	....	.92
25-25.9	1.20	1.18	1.15	1.10	1.05	$0.97	$0.91	.85	.82	....
26-26.9	1.22	1.20	1.17	1.12	1.07	.99	.93	.87	.84	....
27-27.9	1.24	1.22	1.19	1.14	1.09	1.01	.95	.89	.86	....
28-28.9	1.26	1.24	1.21	1.16	1.11	1.03	.97	.91	.88	....
29-29.9	1.28	1.26	1.23	1.18	1.13	1.05	.99	.93	.90	....
30-30.9	1.30	1.28	1.25	1.20	1.15	1.07	1.01	.95	.92	....
31-31.9	1.32	1.30	1.27	1.22	1.17	1.09	1.03	.97	.94	....
32-32.9	1.34	1.32	1.29	1.24	1.19	1.11	1.05	.99	.96	....
33-33.9	1.36	1.34	1.31	1.26	1.21	1.13	1.07	1.01	.98	....
34-34.9	1.38	1.36	1.33	1.28	1.23	1.15	1.09	1.03	1.00	....
35-35.9	1.40	1.38	1.35	1.30	1.25	1.17	1.11	1.05	1.02	....
36-36.9	1.42	1.40	1.37	1.32	1.27	1.19	1.13	1.07	1.04	....
37-37.9	1.44	1.42	1.39	1.34	1.29	1.21	1.15	1.09	1.06	....
38-38.9	1.46	1.44	1.41	1.36	1.31	1.23	1.17	1.11	1.08	....
39-39.9	1.48	1.46	1.43	1.38	1.33	1.25	1.19	1.13	1.10	....
40 & above	1.50	1.48	1.45	1.40	1.35	1.27	1.21	1.15	1.12	....

Refugio: Includes crude purchased in East White Point, Greta, Melon Creek, O'Connor-McFaddin, Plymouth, Saxet, Taft, & Tom O'Connor fields.

Texas Gulf Coast: Includes crude purchased in Amelia, Clear Lake, Goose Creek, Hastings, Magnet, Mykawa, Mykawa New, Raccoon Bend, South Thompsons, Sugarland, Thompsons, & Webster fields.

Mirando: Includes crude purchased in Blanchard, Bridwell, Colorado, Comitas, Eagle Hill, Escobas, Fitzsimmons, Glen, Government Wells (North & South), Heyser, Hoffman, Kelsey, Kohler, Loma Novia, Lundell, Manila, Mirando Valley, Placedo, Randado, Sarnosa, & Tesoro fields.

Anahuac: Includes crude purchased in Anahuac, Angleton, Cedar Point, Fishers' Reef, Hull (Old & New), Pierce, Junction, Red Fish Reef, & Turtle Bay fields.

Dickinson: Includes crude purchased in Dickinson, Gilloc, Hardin, League City, & Rowan fields.

East Central Texas: Includes crude purchased in Anderson, Cherokee, Limestone, & Navarro Counties, and Navarro Crossing field.

West Central Texas: Includes crude purchased in Brown, Callahan, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, & Throckmorton Counties.

Panhandle, Texas: Includes crude purchased in Carson, Gray, Hutchinson & Wheeler Counties.

West Texas & New Mexico: Includes crude purchased in Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler, & Yoakum Counties, Texas; Lea County, N. M.

Hawkins: Includes crude purchased in Hawkins Field, Wood County, Texas.

Conroe $1.43
Tomball 1.40
Van 1.08
Talco 0.79
East Texas & Flag Lake $1.25
Flour Bluff, E. Flour Bluff 1.33
Salt Flat, N. Salt Flat 1.14
Darst Creek, Hilbig, Carroll 1.14
Clark, Zoboroski $1.14
Alice, Benavides (N. Sweden), Sun 1.35
Ben Bolt, Clark-Muil, Tom Graham 1.35
Yates (Pecos) 0.95
La Rosa 1.33

MAGNOLIA PETROLEUM CO.

(May 21, '41)

Panhandle, Tex.—(July 9, '41)—Same as Humble except Magnolia begins with Below 29 at $0.91.

West Texas—In Crane, Upton, Howard, Glasscock, Mitchell, Winkler, Cochran, Hockley, Yoakum & Gaines Cos.—Same as Humble except Magnolia begins with Below 25 at $0.80.

N. Mexico—In Lea Co.—Same as Humble except Magnolia begins with Below 25 at $0.80 & ends with 36 & above at $1.04.

Cass & Panola Cos., Tex.—Below 25 at $0.88, plus 2c per degree of gravity to 40 & above at $1.20.

Mirando, Tex.—Same as Humble.

East Texas $1.25
Darst Creek 1.14
Luling 1.05
Talco ..... .79
Lytton Springs $1.17
Cleveland-Liberty Co. 1.26
Tomball 1.40

SINCLAIR-PRAIRIE OIL MARKETING CO.

Texas Panhandle—(May 23, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.83.

West Texas & New Mexico—(May 30, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.80.

Texas Gulf Coast—(May 21, '41)—Same as Humble.

Mexia District, Texas—(May 30, '41)—Same as Humble, East Central Texas, except Sinclair-Prairie also posts Below 25 at $0.95.

East Texas—(May 21, '41) $1.25

Long Lake, Texas—(May 21, '41) 1.23

Chapel Hill (Washington Co.) Tex. (Jan. 20, '42)
Below 50 grav $1.18
50 grav. & above 1.30

STANOLIND OIL PURCHASING CO.

(May 21, '41)

Clinton, Tex.—Same as Humble Tex. Gulf Coast except Stanolind begins with Below 21 at $1.08.

Fairbanks, N. Houston & Rosslyn, Tex.—Same as Humble Dickinson schedule.

E. Texas $1.25
Satsuma & Tomball, Tex. $1.40

STANOLIND OIL & GAS CO.

(May 21, '41)

W. Beaumont & Spindletop (Jefferson Co., Tex.) **& High Island** (Galveston Co., Tex.)—Same as Humble Tex. Gulf Coast.

Hendrick & Henderson (Winkler Co., Tex.)—Same as Humble West Texas except Stanolind begins with Below 26 at $0.82.

Jay Welder (Calhoun Co., Tex.)—Nov. 14, '41—Same as Humble Anahuac.

THE TEXAS CO.

(May 21, '41)

Panhandle, Tex.—Same as Humble except Texaco begins with 34-34.9 at $1.03.

W. Texas & Lea Co., N. M.—Same as Humble except Texaco posts $0.78 for 23.9 & below and ends with 36 & above at $1.04.

Texas Gulf Coast—Same as Humble except Texaco ends with 34 & above at $1.36.

Duval, Mirando, Tex.—Same as Humble Mirando except Texaco ends with 28-28.9 at $1.21.

Refugio, Tex.—Same as Humble except Texaco ends with 28-28.9 at $1.26.

East Texas $1.25
Darst Creek, Tex. 1.14
Conroe, Tex $1.43
Hockley & Cochran Cos., Tex ..... .87

SHELL OIL CO., INC.

(May 20, '41)

West Texas & Lea Co., N. M.—Same as Humble except Shell ends with 36 & above at $1.04.

Fisher Co., Tex.—(Dec. 11, '41)—Same as Humble W. Central Texas except Shell begins with Below 25 at $0.89.

East Texas $1.25
Livingston field, Polk Co., Tex. 1.25
Pecos Co., Tex., except Yates Shallow pool ..$0.95
Pecos Co., Yates Shallow pool ..... .82

CONTINENTAL OIL CO.

Carson & Hutchinson Cos., Tex.—(July 9, '41)—Same as Humble Panhandle except Continental begins with Below 29 at $0.91.

Mirando, Tex. (July 1, '41)—Same as Humble.

Wade City & Clara Driscoll, Tex.—(July 1, '41)—Same as Humble Refugio.

Alfred & Magnolia City, Tex.—(May 21, '41), $1.35.
Eddy Co., N. M.—(May 30, '41)—Same as Humble N. M. schedule except Continental begins with Below 29 at $0.88.

PAN AMERICAN PRODUCTION CO.

(May 21, '41)

Hastings & S. Houston, Tex.—Same as Humble Tex. Gulf Coast except Pan Am. begins with Below 21 at $1.08.

Gillock, Tex.—Same as Humble Dickinson except Pan Am. begins with Below 21 at $0.95.

East Texas $1.25
Cayuga, Tex. ..... .90
Goodrich, Tex. (Dec. 1, '41) 1.20

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.

CALIFORNIA

Posted by S. O. California, May 23, 1941

All gravities above those quoted take highest price offered in that field)

Gravity	Signal Hill (Long Beach)	Wilmington	El Segundo	Seal Beach	Huntington Beach	Inglewood	Olinda Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley, Canal, Wasco	Coles Levee	Mountain View	Elk Hills, Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Gravity
14-14.9	....	$0.68	....	....	$0.71	....	$0.70	....	$0.70	$0.70	$0.70	$0.72	....	....	....	....	....	$0.73	$0.73	$0.73	14-14.9
15-15.9	....	.71	....	....	.75	$0.76	.72	....	.72	.71	.72	.72	....	....	....	....	....	.73	.73	.73	15-15.9
16-16.9	....	.74	$0.79	....	.79	.79	.75	....	.74	.73	.75	.72	....	....	....	....	....	.73	.75	.73	16-16.9
17-17.9	....	.78	.82	....	.82	.82	.78	....	.77	.76	.78	.72	....	....	....	....	....	.75	.78	.73	17-17.9
18-18.9	$0.80	.82	.86	....	.86	.85	.81	....	.80	.79	.82	.74	....	....	....	....	....	.78	.81	.73	18-18.9
19-19.9	.84	.86	.90	....	.89	.88	.85	....	.83	.82	.85	.77	....	....	....	....	$0.73	.81	.84	.75	19-19.9
20-20.9	.88	.90	.94	....	.93	.92	.88	....	.86	.85	.89	.80	....	....	....	....	.76	.85	.87	.77	20-20.9
21-21.9	.92	.94	.98	....	.96	.95	.91	....	.89	.89	.92	.84	....	....	....	....	.79	.90	.90	.80	21-21.9
22-22.9	.96	.98	1.02	$0.88	.99	.98	.95	....	.93	.93	.96	.87	....	....	....	....	.83	.94	.93	.83	22-22.9
23-23.9	1.00	1.02	1.05	.92	1.02	1.01	.98	....	.97	.98	1.00	.91	....	....	....	....	.87	.99	.96	.86	23-23.9
24-24.9	1.03	1.06	1.07	.97	1.05	1.04	1.01	....	1.01	1.02	1.03	.94	$0.99	....	....	....	.90	1.03	.99	.89	24-24.9
25-25.9	1.07	1.09	1.10	1.01	1.08	1.07	1.04	....	1.05	1.06	1.07	.98	1.02	....	....	....	.94	1.07	1.01	.92	25-25.9
26-26.9	1.11	1.12	1.12	1.06	1.11	1.10	1.08	....	1.09	1.10	1.11	1.01	1.06	....	....	....	.97	1.11	1.04	.95	26-26.9
27-27.9	1.15	1.15	1.15	1.10	1.14	1.14	1.11	....	1.13	....	1.15	1.05	1.10	$1.04	....	....	1.01	1.15	1.07	.98	27-27.9
28-28.9	1.18	1.18	1.17	1.15	1.17	1.17	1.14	....	1.17	....	....	1.08	1.13	1.08	....	....	1.04	1.19	1.10	1.00	28-28.9
29-29.9	1.20	1.21	....	1.19	1.20	1.20	....	$1.17	....	....	....	1.12	1.17	1.12	....	....	1.07	1.24	1.13	1.02	29-29.9
30-30.9	1.23	1.24	....	....	1.23	1.22	....	1.21	....	Elwood	....	1.15	1.21	1.15	$1.01	$1.09	1.10	1.28	1.16	1.04	30-30.9
31-31.9	....	....	....	....	....	1.24	....	1.25	....	Terrace	....	1.19	1.24	1.19	1.04	1.12	1.14	....	....	1.06	31-31.9
32-32.9	....	....	....	....	....	....	....	1.29	....	F.o.b. Ship	....	1.23	1.28	1.23	1.07	1.14	1.17	....	....	1.09	32-32.9
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.22	....	1.27	....	1.26	1.10	1.17	....	....	....	1.11	33-33.9
34-34.9	Kettleman Hills		....	....	....	....	....	1.36	....	1.25	....	1.31	....	1.30	1.13	1.20	....	....	....	1.13	34-34.9
35-35.9	....	$1.23	....	....	....	....	....	....	....	1.28	....	1.35	....	....	1.16	1.22	....	....	....	....	35-35.9
36-36.9	....	1.26	....	....	....	....	....	....	....	....	....	1.39	....	....	1.19	1.25	....	....	....	....	36-36.9
37-37.9	....	1.29	....	....	....	....	....	....	....	....	....	1.43	....	....	1.22	....	....	....	....	....	37-37.9
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.47	....	....	1.25	....	....	....	....	....	38-38.9
39-39.9	....	....	....	....	....	....	....	....	....	....	....	1.51	....	....	....	....	....	....	....	....	39-39.9
40-40.9	....	....	....	....	....	....	....	....	....	....	....	1.53	....	....	....	....	....	....	....	....	40-40.9

Playa Del Rey: (FOB Standard Pipe Line) 20-20.9, $0.80; 21-21.9, $0.84; 22-22.9, $0.87.
Wheeler Ridge: 22-22.9, $0.76; 23-23.9, $0.80; 24-24.9, $0.83.
Newhall, Kern River, Kern Front, McKittrick & Round Mountain: 14-14.9, $0.73.

LOUISIANA-ARKANSAS

Posted by S. O. Louisiana, May 22, '41

Gravity	Atlanta, Ark. et al.	De Soto, La. et al.	Rodessa, La. et al.	Bunkie, La. et al.	Darrow, La. et al.	University, La. (Baton Rouge)
40 & above	$1.08	$1.18	$1.20	$1.30	$1.30	....
39-39.9	1.06	1.16	1.18	1.28	1.28	....
38-38.9	1.04	1.14	1.16	1.26	1.26	....
37-37.9	1.02	1.12	1.14	1.24	1.24	....
36-36.9	1.00	1.10	1.12	1.22	1.22	....
35-35.9	.98	1.08	1.10	1.20	1.20	....
35 & above	....	....	....	....	....	$1.36
34-34.9	.96	1.06	1.08	1.18	1.18	1.34
33-33.9	.94	1.04	1.06	1.16	1.16	1.32
32-32.9	.92	1.02	1.04	1.14	1.14	1.30
31-31.9	.90	1.00	1.02	1.12	1.12	1.28
30 & below	....	....	....	....	....	1.26
30-30.9	.88	.98	1.00	1.10	1.10	....
29-29.9	.86	.96	.98	1.08	1.08	....
28-28.9	.84	.94	.96	1.06	1.06	....
27-27.9	.82	.92	.94	1.04	1.04	....
26-26.9	.80	.90	.92	1.02	1.02	....
25-25.9	.78	.88	.90	1.00	1.00	....
Below 25	....	.86	.88	.98	....	....
24-24.9	.76	....	.88	....	.98	....
23-23.9	.74	....	.86	....	.96	....
22-22.9	.72	....	.84	....	.94	....
21-21.9	.70	....	.82	....	.92	....
Below 21	.68	....	.80	....	.90	....

Atlanta schedule includes Buckner, Lewisville, Magnolia, Village & Schuler (Jones Sand), Ark.

De Soto schedule includes Sabine, Fouke, Homer, Miller Co., Nebo & Sugar Creek.

Rodessa schedule includes Cotton Valley & Shreveport (Cross Lake) ending with Below 25 at $0.88; Anse La Butte (Aug. 1, '41); Caddo (Oct. 15, 1941).

Bunkie schedule includes Eola, Olla, & South Olla.

Darrow schedule includes Bayou Mallet, Choctaw, Jeanerette, Lirette, N. & S. Crowley, Port Allen, Port Barre, Potash, Roanoke, & St. Martinville.

Big Creek, Dorcheat, McKamie Distillates (Sour) $1.15
Heavy Smackover Crude ..... .83
Cotton Valley Distillate (Sept. 1, '41) 1.40
Cotton Valley (Holloway Sand Crude) 1.25
Lisbon Distillate 1.20

(Continued next column)

LOUISIANA-ARKANSAS *(Cont'd)*

Posted by Shell Oil Co., Inc. (May 20, '41)

Gravity	Iowa	Roanoke	Gibson
Below 20	$0.99	$0.94	$0.89
20-20.9	1.01	.96	.91
21-21.9	1.03	.98	.93
22-22.9	1.05	1.00	.95
23-23.9	1.07	1.02	.97
24-24.9	1.09	1.04	.99
25-25.9	1.11	1.06	1.01
26-26.9	1.13	1.08	1.03
27-27.9	1.15	1.10	1.05
28-28.9	1.17	1.12	1.07
29-29.9	1.19	1.14	1.09
30-30.9	1.21	1.16	1.11
31-31.9	1.23	1.18	1.13
32-32.9	1.25	1.20	1.15
33-33.9	1.27	1.22	1.17
34 & above	1.29	1.24	1.19

Iowa schedule includes Black Bayou & White Castle, La. fields.

Roanoke schedule includes Chalkley, La. field.

Gibson schedule includes S. Houma, Hester & W. Lake Verret, La. fields.

Happytown field, St. Martin Par., La. $1.15

Posted by Arkansas Fuel Oil Corp.

Urania, La. (May 22, '41) $1.15

Posted by Continental Oil Co. (May 21, '41)

Tepetate, La. $1.18
Ville Platte, La. 1.20
Lake Arthur, La. 1.18
Ritchie, La. (Sept. 1, '41) 1.08

Abbeville, La.

Below 36 $1.07	37-37.9 $1.11	39-39.9 $1.15
36-36.9 1.09	38-38.9 1.13	40 & above 1.17

CANADIAN FIELDS

Posted by Imperial Oil Limited

Western Ontario (Nov. 6, 1939)

Petrolia ..... $2.10 Oil Springs $2.17

Turner Valley Crude Oil (July 16, '41)

(Prices FOB producer's tankage)

33-33.9 $1.35	44-44.9 1.57	55-55.9 $1.79
34-34.9 1.37	45-45.9 1.59	56-56.9 1.81
35-35.9 1.39	46-46.9 1.61	57-57.9 1.83
36-36.9 1.41	47-47.9 1.63	58-58.9 1.85
37-37.9 1.43	48-48.9 1.65	59-59.9 1.87
38-38.9 1.45	49-49.9 1.67	60-60.9 1.89
39-39.9 1.47	50-50.9 1.69	61-61.9 1.91
40-40.9 1.49	51-51.9 1.71	62-62.9 1.93
41-41.9 1.51	52-52.9 1.73	63-63.9 1.95
42-42.9 1.53	53-53.9 1.75	64 & over 1.97
43-43.9 1.55	54-54.9 1.77	

Absorption Gasoline (July 16, '41)

90% Rec., 20 lb. Reid v.p. $2.28
90% Rec. 17 lb. Reid v.p. 2.44

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co. (May 20, '41)

Salt Creek (except Tensleep crude), Midway & Dutton Creek, Wyo.

Below 29 $0.96	32-32.9 $1.04	36-36.9 $1.12
29-29.9 .98	33-33.9 1.06	37-37.9 1.14
30-30.9 1.00	34-34.9 1.08	38-38.9 1.16
31-31.9 1.02	35-35.9 1.10	39-39.9 1.18
		40 & above 1.20

Wyoming:		Wyoming:	
Tensleep Crude	$0.6785	Grass Creek Light	$1.00
Frannie Light	.70	Grass Creek Heavy	.50
Frannie Heavy	.47	Elk Basin	1.00
Hamilton Dome	.45	Iles, Colo.	1.07

Posted by Ohio Oil Co. (May 20, '41)

Elk Basin, Wyo. $1.00
Grass Creek, Wyo., Light 1.00
Rock Creek, Wyo. 1.15
Lance Creek, Wyo., (July 1, '41) 1.12

Posted by Continental Oil Co. (May 21, '41)

Ft. Collins & Wellington, Col.

Below 29 $0.96	32-32.9 $1.04	36-36.9 $1.12
29-29.9 .98	33-33.9 1.06	37-37.9 1.14
30-30.9 1.00	34-34.9 1.08	38-38.9 1.16
31-31.9 1.02	35-35.9 1.10	39-39.9 1.18
		40 & above 1.20

Canon City & Florence, Col.	$1.05	Big Muddy, Wyo., (May 30, '41)	$1.08
Cat Creek, Mont.	1.15	Lance Creek, Wyo., (July 1, '41)	1.12

Posted by Independent Pipe Line Co. (Aug. 1, '41)

Falls City, Neb., field price $0.90
Falls City, Neb., loaded in tank cars 0.95
Shubert, Neb., loaded in tank cars 0.97

SOUTHEASTERN FIELDS

Posted by Allied Pipe Line Corp.

Tinsley (Miss.) Crude (Oct. 16, '41)

24-24.9 $0.745	32-32.9 $0.905
25-25.9 .765	33-33.9 .925
26-26.9 .785	34-34.9 .945
27-27.9 .805	35-35.9 .965
28-28.9 .825	36-36.9 .985
29-29.9 .845	37-37.9 1.005
30-30.9 .865	38-38.9 1.025
31-31.9 .885	39-39.9 1.045
	40 & above 1.065

Pickens (Miss.) Crude (Dec. 16, '41)

24-24.9 $0.685	32-32.9 $0.845
25-25.9 .705	33-33.9 .865
26-26.9 .725	34-34.9 .885
27-27.9 .745	35-35.9 .905
28-28.9 .765	36-36.9 .925
29-29.9 .785	37-37.9 .945
30-30.9 .805	38-38.9 .965
31-31.9 .825	39-39.9 .985
	40 & above 1.005

CLASSIFIED

Address Blind Box Number ads to National Petroleum News, 530 Penton Building, Cleveland, Ohio, unless otherwise specified.

Position Wanted

Permanent connection with oil jobber as manager. Thirteen years experience in bulk plant operations and sales. Several years connected with major company, also jobbing experience. Have necessary references. Will consider monthly salary and percentage of yearly profits. Address P. O. Box 479, Corbin, Kentucky.

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Excellent opportunities for several capable oil refinery engineers with old established engineering concern having a large amount of defense work on hand. Prefer technical graduates with at least five years' experience in oil refinery engineering. Application should be made by letter, giving age, nationality, concise outline of previous business experience and educational background, present salary, salary desired, and references. Include recent photograph.

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OIL CAN TOPS

We have in our warehouse 23 cases, 1,000 to a case (23,000 new oil can tops) that we would like to dispose of. These tops were to be used on paper containers, but can be used on metal containers.

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ADVERTISERS' INDEX

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Acheson Colloids Corp. .....
Alliance Oil Corporation .....
American Flange & Mfg. Co. .....
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Badger & Sons Co., E. B. .....
Battenfeld Grease & Oil Corp. ....
Bay West Paper Co. .....
Bayou State Oil Co. .....
Blackmer Pump Co. .....
Bowser Co., S. F. .....
Brodie Co. Inc., Ralph N. .....
.....Inside Front Cover
Buckeye Iron & Brass Works..... 31
Butler Manufacturing Co. .....

Canfield Oil Co. .....
Champion Spark Plug Co. .....
Chevrolet Motor Division .....
Chicago Bridge & Iron Co. .....
Cities Service Oil Co. .....
Continental Can Co. .....
Crown Can Co. 13

Dayton Pump Co. .....
Dodge Division Chrysler Corp. ....
Draper Mfg. Co. .....

Erie Enameling Co. .....
Erie Meter Systems, Inc. .....
Ethyl Gasoline Corp. .....

Farrell Mfg. Co. .....Inside Back Cover
Fleet-Wing Co. .....
Ford Motor Co. .....
Fram Corp. .....
Freedom Oil Co. .....
Fruehauf Trailer Co. 34, 35

General American Transportation Corp. 43
General Motors Corp. .....
Gilbert & Barker Mfg. Co. .....
.....Outside Back Cover
Goodall Rubber Co. .....
Goodyear Tire & Rubber Co. 23
Granberg Equipment, Inc. .....
Graver Tank & Mfg. Co. Inc. .....
Gulf Oil Corp. 33

Heil Co. .....
Humble Oil & Refining Co. .....

International Metal Hose Co. .....

Kidde & Co. Inc., Walter .....

McDonald Mfg. Co., A. Y. .....
Mack Mfg. Co. .....
Master Electric Co. .....
Mixing Equipment Co. Inc. 40
Morrison Bros. .....

National Petroleum News .....
Neptune Meter Co. 38, 39
New York Lubricating Co. .....

Overhead Door Corp. .....

Paraflow Sales Division .....
Pharis Tire & Rubber Co. .....
Philadelphia Valve Co. .....
Phillips Petroleum Co. .....
Pittsburgh Equitable Meter Co. ...
Pure Oil Co. .....

Quaker State Oil Refining Co. .....

Reeves Brothers .....
Republic Oil Co. .....
Revere Electric Mfg. Co. .....
Roper Corp., Geo. D. .....

Shell Oil Co., Inc. .....
Sinclair Refg. Co., Inc. 28, 29
Smith Meter Co. .....
Socony-Vacuum Oil Co. .....
Standard Steel Works .....
Sun Oil Co. .....

Texaco Development Corp. .....
Timken Detroit Axle Co. 41
Tokheim Oil Tank Co. .....

Universal Oil Products Co. .....

Viking Pump Co. 44

Wayne Pump Co. .....
Wilson & Bennett Mfg. Co. 37
Wheaton, A. W., Brass Works .....
Westinghouse Electric & Mfg. Co. ..

·PERSONALS·

Gerald S. McMahon, Ponca City, Okla., manufacturing department technologist for Continental Oil Co., has joined the Army as First Lieutenant in the Chemical Warfare Division.

* * *

Transportation division of the Office of Petroleum Co-ordinator enjoyed a buffet supper on Feb. 7 at the Washington home of **Mr. and Mrs. William C. Eberle.** Mr. Eberle is OPC's chief of marine transportation and a former Atlantic Refining man. Among those attending this party were: **Boyd Wilson,** OPC's chief of rail transportation, and **Mrs. Wilson; Allan Hand,** secretary-treasurer of Petroleum Industry War Council, and **Mrs. Hand; Charles L. Lockett,** OPC's pipeline chief, and **Mrs. Lockett; Howard T. Mather,** special assistant to OPC's Deputy Co-ordinator; and OPC secretaries: **Helen Cranston, Inez Fleming, Clara Morgan, Marie O'Toole, Esther Perkel, Emily Smith and Katherine Crow.**

* * *

Nancy Beale, a secretary in **Research Director E. B. Swanson's** office of the Office of Petroleum Co-ordinator, has been named by the Secretary of the Navy to sponsor the USS Beale, named in honor of her great-granduncle, the late Lieut. Edward Fitzgerald Beale, U. S. Navy.

* * *

Newest member of Office of Petroleum Co-ordinator's marketing division is **Evart E. Overton,** marketing analyst, it was learned here last week. Mr. Overton has been with Shell for past 20 years in various capacities, including head of gasoline distribution, fuel oils sales and the commercial department. He once worked for the New England Refining Co. which was later taken over by Shell.

DIRECTORS ELECTED for 1942 by Missouri Independent Oil Jobbers Assn. are (seated, left to right): John Rupp, Chillicothe, Mo., Rupp Bros. Oil Co.; D. S. Caldwell, Richland, Mo., Caldwell Oil Co. E. G. Clear, Kansas City, Mo., Certified Oil Co.; Vincent J. Smith, South St. Joseph, Mo., Smith Turner Oil Co. (Retiring President); Paul V. Browne, St. Louis, elected 1942 treasurer, Independent Oil Co., and D. Oty Groce, St. Charles, Mo., Groce Independent Oil Co. (Standing, left to right): Robert W. Hadlick, re-elected executive secretary, Jefferson City, Mo.; J. A. Salter, elected 1942 president, Kirksville, Mo., Salter Oil Co.; John Ahern, Steele, Mo., Pemiscot Oil Co.; R. J. Wastell, Clinton, Mo., Quality Oil Co.; Roy W. Blair, elected 1942 vice-president, Troy, Mo., Lincoln Oil Co.; C. N. Jackson, Mendon, Mo., Mendon Oil Co. Not shown is director H. E. Miller, Festus, Mo., H. E. Miller Oil Co., newly elected director. Also re-elected but not in the group: Paul H. McMahan, elected secretary of Board, Seymour, Mo., Independent Oil Co. and H. E. Milton, St. Louis, Milton Oil Co.

I hope the spirit of this country will never suffer itself to be injured with impunity by any nation under the sun.

• *George Washington*

It Never Will, Gen. Washington!

THIS YEAR, as we celebrate the birth of Washington, everything he stood for . . . everything he fought for . . . is threatened as never before. But, as no one knew better than Washington himself, this country—always reluctant to take up arms—moves relentlessly on to victory once its decision has been made.

Since Pearl Harbor, the business of America has become the business of war and everything else must be and will be subordinated to the big job before us. We are doing everything humanly possible, both on direct war work and indirectly on essential civilian work, to assist Uncle Sam, and will continue to do so until victory has been gained and the threat to our Way of Life has been completely destroyed.

FARRELL

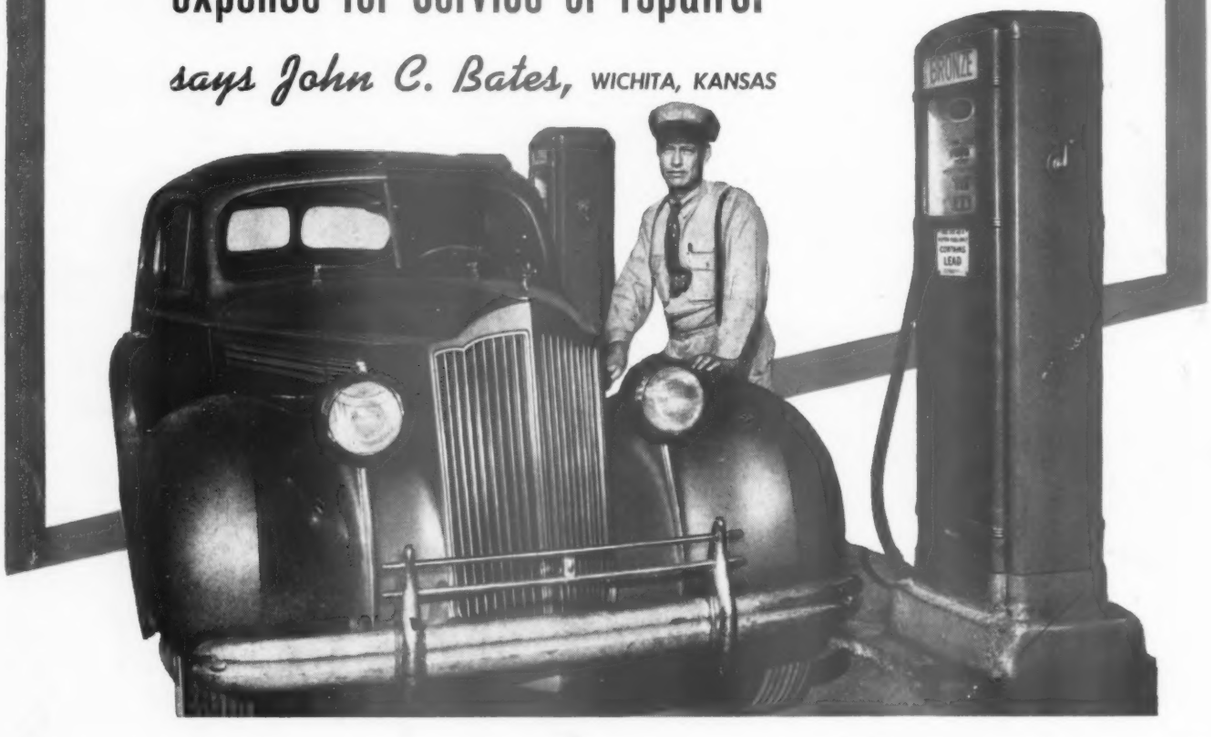
Manufacturing Company

● JOLIET, ILLINOIS ●

Continuous Service!

"I have a Gilbarco Calco-Meter M-96 that has dispensed over 1,200,000 gallons. It has been in continuous service and there has been no expense for service or repairs."

says John C. Bates, WICHITA, KANSAS



● Just as tough as they are good-looking, Gilbarco pumps all over the country are turning in service records like these.

With its smart, modern styling, its unfailing accuracy, and its faultless performance, the Gilbarco Calco-Meter M-96 is insurance for the future. Built to give you years and years of use, it's a pump that doesn't need pampering.

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Still doing business at the same old stand!

● Installed 30 years ago at Tom Taylor's Tire House in Sanger, California, this Gilbarco T-35 has never been moved . . . and never been out of service! Says Tom, "The only maintenance cost was a new piston leather two years ago. I feel I've got my money's worth out of this pump!"

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Gilbarco CALCO-METER M-96